AUSTRALASIAN PLANT SOCIETY

Newsletter No. 5 November 1990

Dear Members

The 1990 certainly showed up the 'toughies' among the plants which we grow. I felt myself to be fortunate in not losing any plants from the garden. All those lost were in pots. Pehaps surprizingly to some the greatest losses were through excessive wetness. What happened was that I had transplanted seedlings of Acaphylla glacialis and A. simplicifolia into a moisture retentive mix. When the heavy June rains arrived the seedlings drowned in their pots Another catastrophe has a silver lining in that, for the first time I have an insight into why some Proteaceae are so difficult to handle. What happened was that in March I lifted a 12 year old Agastachys odorata from the garden and put it in a large pot. The move was successful and the plant grew away, making new growth. At the height of the hot weather, when temperatures around 93°F were experienced, the leaves suddenly turned black. As expected death occurred in less than a week. The most likely cause would seem to be that root rotting occurred when I was watering heavily, to keep up with the high evaporative water loss. When the compost dried out a little bacteria were able to invade the plant, and it died. In future my priority will be to get Proteaceae into the ground as soon as possible. All my losses have been among potted plants. Those in the garden have never been lost.

Useless information

Did you know that pollen from Australian she-okes blows across the Tasman Sea to New Zealand, where it discolours ice on the glaciers?

Reading an article about Ambergris I was interested to learn that it has a connexion with the New Zealand conifer Halocarpus biformis .The link arises through the chemical manaoöl, which can be obtained from H. biformis. Manoöl can be converted to another chemical, which has an ambergris like odour.

Saving the Mallee

Visitors to the Australian State of Victoria cannot help noticing that the tree-less Western District is punctuated by lines of Sugar Gums (Eucalyptus cladocalyx). They have been planted as windbreaks. Their effectiveness is limited because the species has a bare trunk, and no lower storey trees have been planted with them. In contrast much of the well tree-ed Mallee has been cleared, and the roots sold for firewood. The Mallee is an area of international significance, being one of the few semi-arid parts of the world which still has relatively

un-modified natural vegetation. Because of its wide range of plant and animal life the Aboriginals of the Little Desert called the Mallee 'tatyara', meaning 'Good Country'. Only one third of that good country remains uncleared.

Part of the Mallee country is preserved already. Now the Victorian National Parks are to be enhanced by the creation of new parks which will add 857 000 hectares to the protected part of the Mallee.

There is still controversy over activities which are to be allowed to continue - grazing and gypsum mining. Though regrettable these should not concern overseas visitors too much. A visit to the Mallee should be high on any tourists list of places to see. As well as the varied wild flowers I still recall my astonishment when confronted with the giant nesting mounds of the Lowan. They alone make the area worth a visit.

This year has seen the publication of Volume 5 (Gr to J) of 'The Encyclopaedia of Australian Plants suitable for Cultivation'. At A$90 it is not cheap, but it does include both Grevillea and Hakea. The varietal lists are more up to date than those in Wrigley and Fagg's 'Banksias, Waratahs and Grevilleas'. The descriptions make one realize how many members of these two genera are suitable for sheltered cultivation in Britain. Unfortunately far too many of the descriptions include such phrases as 'must have a low humidity' The volume also includes Helichrysum; a family which will disappear from Australia when the Asteraceae revision has been completed.

Callistemon pityoides by Jeff Irons

Having grown up with the name C. sieberi for this species, we now have to learn to call it C.pityoides. That would be no problem. Unfortunately Australian botanists follow the rules of nomenclature scrupulously, and they have re-allocated the name sieberi to what was formerly C. paludosus. Consequently it is now necessary to question the origin of any seed or plant offered as C. sieberi. This is necessary because apart from their size differences, the two species differ in hardiness.

Commonly known as the Alpine Bottlebrush, C.pityoides is the only Callistemon which can be considered fully hardy in Britain and continental Europe. It has been unharmed by temperatures below -18°C, and by freezing winds.

Usually a dense shrub up to 4ft (1.3m.) high, this species can be as much as 6½ft (2m.) high. The leaves are narrow and sharply pointed. Silky hairs cover both sides of young leaves, but only the underside of older leaves. The young leaves exhibit considerable variation from plant to plant, even within the same batch of seed. They can be pinkish, dark green or light green. Seedlings appear to have different habits, but as plants mature they all adopt the same weed smothering dense habit. Mature leaf colours do vary considerably though. The flowers are produced at the end of shoots, and extension growth does not begin until flowering is nearly over. The inconspicuous petals are about ⅛" (3mm.) long and are

yellowish in colour. The numerous stamens, in two rows, are bright yellow and are about ⅜" (9mm) long. There is a rare pinkish variant.

In 1984 I selected four seedlings from a single batch of seed. In the intervening years they have grown at different rates, and now vary in height from 2 to 3½ft. (0.7 to 1m). All four flowered for the first time in 1990. There was a marked difference between them. Some plants developed their brushes more quickly than others. The quick developers had longer, more open brushes. Not only did they open before the slow developers, but they had a shorter flowering life as well. At flowering time they had more extension growth.

There is no doubt that when in bloom this is an attractive species. The flowering period overlaps that of C. subulatus, but hybrids between the two seem not to have been created. The cross C. pityoides x C. subulatus could give us a small hardy callistemon for today's small garden. It has a wide range of colour possibilities. What is needed is for someone who has the space to grow on hundreds of seedlings to take on the task. Patience will be required, for there will be 8 to 10 years between making the cross and seeing the first flowers.

The species pityoides and sieberi (paludosus) can be distinguished by their leaves:

Those of C. pityoides are no more than 3mm wide, and are 1.5 to 2.5cm long. They are sharply pointed, and old leaves are quite stiff. The oil glands are scattered over the under surface of the leaf, and are readily visible to the naked eye.

Those of C. sieberi are much larger, 3 to 6cm long and 4 to 6mm wide. The oil glands are small, and not readily visible without a lens.
The flowers of C.sieberi are much larger, and the stamens are about 1.5cm long

As mentioned earlier C. pityoides has a very dense habit, That of C. sieberi is much more open and spreading. It could be said to be a typical callistemon shape.

Corokia x virgata by Brian Halliwell

Having been transferred from Cornaceae to Escalloniaceae, the genus Corokia, which is confined to New Zealand, contains three species:

C. buddleiodes is to be found in the North Island where it occurs as understorey of lowland forests or at their fringes.

C. cotoneaster occurs in Three Kings, North and South Islands in lowland scrub, along river margins or on the lower slopes of mountains.

C. macrocarpa is confined to the Chatham Islands as understorey or at forest margins.

None are reliably hardy in the British Isles, and even Corokia cotoneaster, the commonest and hardiest, is liable to damage in extreme winter cold. Curiously C. x virgata, a hybrid between C. buddleiodes and c. cotoneaster, seems to be fully hardy. It it is being planted increasingly in landscapes throughout the country, and I have seen plantings in a number of parks in West Yorkshire which survived some of the very cold winters of the nineteen eighties. Like most New Zealand plants, Corokia x virgata prefers a lime free, well drained soil. Once established it will tolerate extreme dryness, which may become an advantage, if we experience more summers like those of 1989 and 1990. It is easily propagated from stem cuttings taken in early autumn. Rooted cuttings should be kept under protection over winter and planted out in their permanent positions in May. Do ensure that planting takes place before plants become root bound.

In 'Cultivation of New Zealand Trees and Shrubs' L. Metcalf describes C. x virgata as an erect slender shrub reaching 3.6m whereas in Bean's 'Trees and Shrubs Hardy in the British Isles'. (8th. edition) it is described as reaching 15' with no mention of a slender habit. From my observations, I would consider it a spreading shrub, and one of 10 years old was 7' high and a little more across. Spreading branches are thin and zig-zag slightly. When young the branchlets are covered with white down.

Leaves, which are alternate, are variable in shape: lance, oval or spoon shaped, a little more than an inch long, although on strongly growing shoots they can reach twice this length. The upper surface may be sparsely covered with hairs when young, but at maturity is glabrous and dull, dark green sometimes tinged w with brown. The under surface is white felted. In May in leaf axils are produced. Flowers can vary in number from 1 - 6, but 3 seems most usual. When fully expanded these are about ½" (12mm.) in diameter, star shaped, composed of 5 bright yellow petals and are slightly fragrant. Following pollination these are followed by roundish, oval or barrel shaped berries which can be orange, yellow or red. Fruit set on isolated bushes is good, but there is an even better performance when several bushes of different clones are planted together. Even though a hybrid,

seed is reasonably fertile, and seedlings resulting from autumn sowing, although somewhat variable, do resemble their parent.

In New Zealand there is a number of cultivars offered by nurseries: Bronze King. Bronze Knight, and Bronze Lady all have foliage with different degrees of bronzing and red berries; in Red Wonder and Yellow Wonder there are green leaves, the former has red berries and the latter yellow. An additional cv. listed is 'Coppershine' which I do not know. The 'Plantfinder' lists a number of sources of supply, and the largest selection is listed by Burncoose and Southdown Nurseries.

Richea scoparia by Jeff Irons

With the increasing emphasis put on the architectural quality of plants as a means of obtaining year round interest in small gardens it is surprizing that the Southern heath Richea scoparia . is not seen more often. Since it is named after the Frenchman Riche, the genus name is pronounced with a soft sh, not as might have been expected with the hard ch of rich. The Richeas come from wet well drained places in areas of high rainfall. In western and northern Britain they tolerate drier conditions and grow well in 25" rainfall areas. In southern England they are more demanding, and at Kew were always found to be quite difficult.

Their hard leaves curve out then down,and radiate from the stems. They create a very dramatic architectural effect. The best known is Richea scoparia , and in his book 'The Peat Garden and its Plants' (Dent 1974) Alfred Evans recorded that at the RBG Edinburgh plants had lasted for more than forty years. They have also self seeded at Edinburgh.

Curtis describes R. scoparia as being the alpine equivalent of R. dracophylla. It makes an erect much branched shrub which forms dense rounded bushes 15" to 39" high (40cm - 100cm). In sheltered spots old plants can grow up to 10ft (3m.) high. The leaves are rigid and imbricate, linear lanceolate, tapering to a sharp point and sheathed at the base. They are about 1½ to 2½" long (3 -6cm.). As with many other epacrids they stay attached to the branches after they have died. This is a distinguishing feature between R. scoparia and R.gunnii. The dead leaves of the latter fall off. The flowers are in an erect spike like panicle some 2 to 5" long (4 - 12cm). The flower colour can be white, red or orange. Interestingly nearly all the plants in the British Isles have white flowers. This is because they were propagated vegetatively from the Edinburgh stock. In recent years Highfield Nursery (in Belper, Derbys) has offered seed grown plants, and my own stock is seed raised.

Propagation is vegetatively or from fresh seed which has not dried out. If it can be obtained the latter should be surface sown on an open lime free compost. It will germinate once winter is over. The young seedlings have very fine roots, so should be handled with great care. As with mature plants they need a compost which is well drained but permantly moist. Seedlings may be planted out in their third year. Like other Australian plants their survival chances are increased if this is delayed till April or May.

Two mint bushes - one for the house and one for the garden

Four years ago a Dutch nurseryman noticed an unusual plant in a northern British garden. This year he is offering 1000 specimens of it to our Garden Centres. The plant is Prostanthera cuneata which until now has been available only from specialist alpine nurseries. The Prostantheras are known as 'Mint Bushes' because of the aromatic smell of their leaves. The name Prostanthera comes from two Greek words meaning appendage and anther.

Prostanthera cuneata is found in the three southern Australian States of Tasmania, Victoria and New South Wales. Its common name is 'Alpine Mint Bush'. The habit can be low and spreading or upright, and the form sold in England has the former habit. It makes an evergreen canopy about 12 to 18" in height (30 -50cm) which though fairly open is weed suppressing. The individual leaves are small, and as the name suggests, cuneate in shape. The flowers, large for the size of the plant, appear in June. In some years there will be a separate autumn flowering, in others flowering will continue all summer. Flower colour is not entirely predictable. The first flowering of a newly bought plant will usually produce mauve flowers, but subsequent flowerings often have very pale mauve flowers with a mauve/purple blotch. Be that as it may, this is still a very attractive plant. It is absolutely hardy at Aviemore.

Prostanthera 'Poorinda Pixie' is at the other end of the hardiness scale and is definitely a plant for the frost free greenhouse or conservatory. Alternatively it may be used as a house plant. The small leaves, which have a felty appearance are a grey green in colour and are on the lateral branchlets. In early summer these branchlets are smothered with small mid-purple flowers. When bought plants will be 18 to 24 " high (35 -75cm), and can be 39" (1m) or more in their second year. Old plants tend to get rather tatty, so frequent replacement is recommended. This can be done from half ripe cuttings of the current seasons's wood, which root readily.

Several alpine nurseries offer P. cuneata, but Bodnant Gardens seems to be the only mail order source of P. Poorinda Pixie. The latter is one of Leo Hodge' plants - in itself a guarantee of its quality.

Parahebe perfoliata by Brian Halliwell

Parahebe (Veronica) perfoliata is an evergreen perennial from Australia which seems to be hardy in all but the coldest parts of the British Isles.

It makes an interesting addition to an herbaceous border or island bed, where it makes a multi-stemmed plant up to 2ft (0.6m.) high, with long lasting summer flowers. There is an additional attribute from the colourful and unusual foliage, so it could be used as a constituent of a grey/silver border, when its flowers would be a bonus. There is a better performance, whether grown for flowers or foliage if young stock is used and maintained. Plants should be lifted in early April and divided at least once every three years. An alternative is to take stem cuttings of new non flowering growth in early autumn. Keep rooted cuttings under protection in winter, and plant out in May.

The common name of 'Diggers Speedwell' arose from the plant's occurrence on the Victorian goldfields. The plant was introduced to British gardens as early as 1815. It may not have survived, or if it did it remained out of fashion until about 1970. Occurring on forest fringes, amongst regrowth or as a constituent of lowland or sub-alpine scrub, it is to be found in Victoria, New South Wales and the Australian Capital Territory. Although grown in England as a perennial, its stems become woody with age, and it is described in flora as a sub-shrub. As might be expected from the specific epithet, its leaves are perfoliate. A perfoliate leaf is in fact a pair of leaves joined at their bases to suggest a single leaf with a stem growing through its centre. As stems elongate the leaf can separate into two, either partially or totally. The leaves are leathery and grey or blue-green. From upper axils develop racemes up to 6" (15cm) in length of small four petalled flowers. Older books describe their colour as violet blue, and Australian literature describes it as 'corolla RHS Colour Chart 1966, corolla violet blue 91A'. The form sold by Ingwersen's is said to be a dark violet-blue, but all that I have seen have been sky blue, so perhaps there has been a second introduction. The Plantfinder lists a form described as having dark blue flowers, and albinos are to be found in the wild.

Plants at Kew flourish in full sun. Jeff Irons tells me that while he grows it in sun, a plant at Ness Gardens grows just as well in shade, under a tree and at the top of a flight of steps.

Get to know the Eucalypts by Sue Hyams

Of the trees native to Australia, none are more numerous than the Eucalypts, of which there are over 600 described species - and possibly another 150 undescribed. The most numerous species in Australia is Acacia, but many of its members are not trees but small shrubs. Among the Eucalypts is the world's tallest hardwood - Eucalyptus regnans - which soars over 300 feet int the air. They have adapted themselves to climates ranging from tropical to cool temperate. They survive in a variety of soils, ranging from fertile loams to inhospitable sand. Their fast growth rate makes them valuable timber trees. They also produce useful oils and resins. The Aboriginals have found many uses for the different eucalypt species.

Aboriginal uses for Eucalypts

Eucalyptus dichromophloia Variable barked bloodwood

Like other bloodwoods, the tree has numerous gum veins which produce considerable amounts of gum called kino. This was used by Aboriginals in the north of Western Australia as a tonic. Kino solutions (kino mixed with water), sometimes sweetened with sugar once white man's supplies were available, were drunk for colds and bronchial diseases, and heart and lung diseases - it is possible that some 'heart disease' was merely indigestion. A similar mixture was used as a mouthwash for toothache. Sometimes the kino itself was used to plug holes in teeth to stop the pain. The nectar from large sprays of flowers made a pleasant remedy for coughs and colds.

Eucalyptus gummifera Red bloodwood

This bloodwood also exudes kino which has a tannin content making it astringent. It was used by Aboriginals both internally and as an external application for venereal sores. It was also recommended as a quick cure for ringworm during colonial times. The kino contains the phenolic compounds ellagic acid, kaemferol and aromadendrin, which may have some antiseptic and bactericidal qualities.

Eucalyptus microtheca Coolibah

Bark of the coolibah, the large gum tree of inland watercourses was beaten, heated, and applied as a poultice by the Aboriginals in case of snakebites.

Eucalyptus pruinosa Ironbark

Used to help rheumatism. The inside bark is stripped and wound round the chest and body very tightly. The patient must be sitting down in the water at the same time. This treatment was recorded among Aboriginals in the Cloncurry district

Eucalyptus tetrodonta Darwin Stringbark

The Aboriginals drank an infusion of the inner bark and sapwood for diarrhoea. Aninfusion of young leaves, prepared by bruising and rubbing the leaves in water until it turns green and thick,

was drunk for fevers and headaches. A leaf decotion was drunk for influenza.

Eucalyptus viminalis Manna gum, ribbon gum

Following lerp insect attack, sugary manna is produced. The manna found on its leaves has been used as a mild laxative. The sugar mannitol is the main component of the manna. In some areas, the bark and leaves were moistened and used as an application for sore eyes.

Eucalyptus dives Broadleaf peppermint

The Aboriginals smoked people with burning leaves for the relief of fever. The leaf oils are used medicinally. This species exists in several forms yielding essential oils of different chemical composition on distillation. The cineole rich strain yields medicinal eucalyptus oil (used in the same way as Eucalyptus globulus ssp. globulus oil). The piperitone rich strain is used in the manufacture of menthol (used in liniments and mouth washes) and thymol (a fungicide).

Eucalyptus citriodora Lemon scented gum

The essential oil contained in the leaves appears to have bacteriostatic activity towards Staphlococcus aureus (Golden staph). The kino contains the antibiotic substance ciriodorol.

Eucalyptus globulus ssp. globulus Tasmanian Blue Gum

This is the source of medicinal Eucalyptus oil. It is cultivated for this purpose in Portugal,Spain and China. The leaf oil is rich in 1:8 cineole and is extensively used in the manufacture of cough medicines, liniments and the like for the relief of colds, muscular pain, rheumatism and similar complaints. A drop of oil put into hot water will facilitate breathing when the vapour is inhaled.

Eucalyptus macrorhyncha ssp. macrorhyncha Red Stringbark

The kino is astringent. The leaves contain between 6 & 24% of the drug rutin. Rutin has the ability to strengthen the walls of small blood vessels and capillaries and is thus useful for the prevention of nose bleeding during headcolds. It is often used in combination with Vitamin C.

Eucalyptus youmanii Youman's stringbark

The leaves contain 7 to 11% of rutin, which is used pharmaceutically.

Eucalyptus polybractea Blue mallee

The leaves are a source of medicinal Eucalyptus oil used for the relief of headcolds, muscular pain in the form of liniments), and as an expectorant in cases of bronchitis (added to cough syrups). 1:8 cineole is present in the steam distilled oil.

Eucalyptus smithii Blackbutt peppermint

Steam distillation of the foliage yields a medicinal oil similar to E.globulus ssp. globulus oil. The main component of the

Eucalyptus terminalis Mountain Bloodwood

The Aboriginals,as well as early settlers, drank a solution of the red kino for diarrhoea, as well as for chest and heart pains (probably due to indigestion). Tannins are present.

Eucalyptus papuana Ghost gum

The Aboriginals soak the broken up bark in water until it is red and drink the infusion for colds. It is also used for bathing sore eyes.

Eucalyptus drepanophylla Bowen ironbark

The Aboriginals used a decotion for bathing sores.

Eucalyptus maculata Spotted gum

A water solution of the kino taken internally has been reported to have cured a bladder inflammation. The yellow-brown kino contains ellagic acid, various flavonoids and tannins.

Eucalyptus camaldulensis River red gum

The kino is astringent and has been used in cases of diarrhoea. An infusion of leavres and twigs h as been used to bathe the head for colds and fevers.

Eucalyptus haemastoma Scribbly gum

The bright red kino is used externally in the treatment of cuts, wounds and ulcers. It is also used internally for the treatment of dysentery.

Eucalyptus pilularis Blackbutt

The kino is an astringent remedy

Eucalyptus piperita Sydney peppermint

The volatile leaf oil has been used in stomach upsets. The leaf oil contains 45 to 55% 1-piperitone when distilled from foliage collected in the Sydney area. 1-piperitone is used as the starting materil for the manufacture of l-menthol and thymol. Menthol is used for the treatment of headaches; thymol is a powerful fungicide.

Eucalyptus polycarpa Long-fruit bloodwood

The kino is eaten by Aboriginals for dysentery.

Eucalyptus racemosa Snappy gum

The kino has been used against diarrhoea

Eucalyptus tessellaris Moreton Bay ash

Queensland Aboriginals soaked the bark in water and drank the infusion for dysentary. Kino used too.

Eucalyptus resinifera Red mahogany

Queensland Aboriginals drank a leaf decotion and rubbed the inner bark into syphilitic sores.

Eucalyptus globulus by Sue Hyams

Joseph Bosisto was a Yorkshireman and pharmacist,who migrated to Australia in 1848. He began the first serious investigation of the volatile oils of Australia's native plants, in particular the Eucalypts. In 1854 he started the first commercial production of eucalyptus oil in Victoria. He was greatly assisted by Ferdinand Mueller, a German pharmacist turned botanist, who later became Government Botanist of Victoria.

Bosisto extracted the oil from the foliage by a process of steam distillation. The leaves are put into a vessel fitted with a lid and an outlet pipe, connected to a water cooled condenser. A certain amount of water is added, then the leaves are boiled. The oil enriched steam is passed through the water cooled condenser, where the steam and oil vapours are again re-liquified. The oil being lighter than water, may be skimmed off the surface of the condensed water.

Bosisto produced mainly medicinal oils, oils rich in a compound called 1.8 cineole (sometimes also called eucalyptoil). There are some 20 or so species of Eucalyptus used for the production of this kind of oil. The species most commonly used are the 'blue mallee' (E.polybractea), the cineole variety of the 'broad lef peppermint' (E. dives var. C), E. leucoxylon, E. sideroxylon, E. oleosa, E. radiata var. australiana. Although Australia is the home of Eucalypts, their medicinal oil production is only 5% of the world production. Portugal and Spain produce well over 60% of the world production, where the oil is derived from the foliage of the 'Tasmanian blue gum' (E. globulus), which was introduced into Europe in the last century and grown mainly for timber which was used as mine props and paper pulp production. Apart from the oil being used in various pharmaceutical preparations, it serves as the raw material for manufacture of pure 1.8 cineole, which is used pharmaceutically in the preparation of liniments, inhalants, cough syrups and flavourings.

The oil of another Australian Eucalypt, E. dives 'type' (the piperitone rich form of the 'broad leaf peppermint' is produced in Australia in such small amounts that the greater part of the country's requirement has to be imported from Swaziland. The main component of this oil is the monoterpenoid ketone piperitone, a compound with a pepperminty odour. These piperitone rich oils are transformed chemically to menthol, which is used in gargles, mouth washes,liniments, often together with 1.8 cineole as well as flavourings.

Cassinia 'Ward Silver'

This desirable shrub is a fairly new introduction to the British scene, for it came onto the market in 1985. We owe it to Graham Hutchins of County Park Nursery.

He made a collecting trip to New Zealand in January and February of that year, and the account of his South Island travels reads:

'It was not many miles to the small town of Ward, ----. From Ward we motored along the small road to the coast and large empty beaches. Here were small cliffs and grassy hillsides clothed with small shrubs, Cassinias were common. We had seen many of these 'Cottonwood' shrubs in the mountains, usually untidy greyish-green, 1 to 2 metres or more tall, but here were neat and compact small bushes 60 to 120cm tall and grey green to silver, the numerous flower heads at the branch tips now given way to seed. I believe these were Cassinia vauvilliersii var. albida.'

A selected seedling from that trip has been distributed as Cassinia 'Ward Silver'

Though correct at the time of collection, Graham Hutchins use of the name Cassinia vauvilliersii is no longer valid. Although the Flora of New Zealand recognizes five species of Cassinia, Vol.IV will recognize only one species - Cassinia leptophylla. It was described in the CAGS 'Bulletin' for December 1986, —Vol 5 No. 3 page 8.

Cassinia 'Ward Silver' is an excellent grey garden shrub. Plants from the first distribution reached 3 to 4 feet (ca. 1m) in height and the same in width by the end of summer 1989. Flowering occurs at the end of summer in late August and September. The flowers do not obtrude on the the overall effect. If pruning is required it is best carried out in May, for new growth does not appear till June. Propagation is from cuttings taken in spring.

Chatham Island 'Forget me not' by Brian Halliwell

As the majority of New Zealand flowers are white or yellow, any of different colours are prized, especially when they make good garden plants. One such species is the Chatham Island Forget me not, Myosotidium hortensia.

From a stout rootstock, develop large leaves on long petioles which have broad laminae up to 6" (15cm) across, shining green above and grey or silvery beneath with prominent veins. These can be heart shaped, kidney shaped, round or oval, partially folding to suggest funnels. In summer a stout flower stem, which can reach 2ft. (60cm.) emerges from amongst the leaves to produce a substantial head of flowers. Each is about ½" (1cm.) and made up of 5 petals which are bright blue, paling on the outer edges. The colour darkens with age and petals can take on purplish hues. Following pollination nutlets develop, about ½" (1cm.) in diameter and each containing a large flat seed.

Seed has a short viability and is best sown as soon as possible after collection. Old seed germinates poorly. Push each seed vertically into small pots of a lime free soil based compost and keep in a warm glasshouse or frame. Germination, which is often erratic, can take up to four weeks. Keep seedlings growing in shady conditions in a frost free environment, ensuring that they never want for water. Take precautions against aphis infections. These appear first on the underside of young leaves and in the autumn migrate into the crown of the plant, where they are difficult to see and therefore to control. Hibernating aphis feed on immature leaves in the base of the plant and as these expand in the spring they will be seen to be distorted and mottled with yellow. Their growth will be poor. In severe infestations plants can die. As seedlings fill their pots with roots they can be planted out or potted on. Planting out should take place in late spring after the danger of frost has passed.

The Chatham Island Forget me not is on the border of hardiness, although once established plants will survive an average winter over much of the British Isles. Choose a moist lime-free soil which is well supplied with organic matter. Plants are always better in areas of high rainfall, where the soil water content and atmospheric humidity remain high. An annual mulch of peat or leaf mould in March or early April is beneficial, and they thrive under a mulch of rotten sea weed.

There can be variation of flower colour in the purity of shades of blue, and albinos do appear. Seed should be collected only from the best colour forms. Avoid plants where the flower colour is purplish or mauve, and whites which are not pure. These are best uprooted and consigned to the compost heap.

This monotypic genus is endemic to the Chatham Islands, politically part of New Zealand, and situated some 500 miles to the east of the South Island Plants grow in pockets of soil just above the tidal reaches, and can be flooded by sea water. When discovered by Dr.Ernst Diffenbach in 1840 it was widespread and common. Through trampling by humans and sheep, and uprooting by pigs it has become rare and is now on New Zealand's endangered plant list. Seed was sent back to new settlements in New Zealand, further afield to to the expanding towns of Australia, and it arrived in England in 1857. J.D. Hooker, who was to become Director of the Royal Botanic Gardens at Kew, had collected in New Zealand and although he tried to reach the Chatham Islands was prevented by bad weather. In the 'Gardeners Chronicle' of 1858 he uses the name Cynoglossum nobile but in the following year, when describing it for Curtis' 'Botanical Magazine' he has changed to Myosotidium nobile. The first published name of Myosotidium hortensia remains the valid name.

Victorian horticultural cognoscenti had been dabbling with the cultivation of Australasian forget-me-nots, which they had found difficult, and had been dis-satisfied with their mainly white flowers.

The arrival of the Chatham island forget me not created great excitement, for here was a truly noble plant which reqired skill to grow, but more closely resembled English forget me nots even though all its parts were gigantic. Not reliably hardy, and growing better in higher rainfall areas, it proved easier along the western seaboard. Its arrival co-incided with the beginning of the cult of growing rhododendrons, of which many from the Far East were coming into Britain at this period. The main display from rhododendrons in woodland gardens was in late winter and spring. By the beginning of summer their floral display had ended. These rhododendron enthusiasts were now looking for plants that would thrive in the deep shade beneath mainly deciduous trees, and provide summer interest. Amongst the perennial plants which they chose were species of Hosta, newly arrived from Japan, as well as Myosotidium hortensia. Hostas although having handsome flowers were considered for their leaves. When first introduced into British gardens Myosotidium was also thought of primarily as a foliage plant. Owners of woodland gardens along the western seaboard of Scotland would wager with each other to see who could grow a Chatham Island forget me not with the largest leaves. There were reports of some leaves approaching 2ft. in diameter.

The cultivation zones of New Zealand Plants by Mervyn Feesey

The vegetation zones of New Zealand can be classified broadly as:

FOREST This is mostly mixed beech - Nothofagus, and Podocarpus. In parts it is very lush.

SUB-ALPINE SCRUB This is the area above the lowest winter snow line. It contains many of the plants with which we are familiar. They include Coprosma, Hebe, Olearia, Senecio Brachglottis, Dracophyllum and Gaultheria.

SNOW TUSSOCK SCRUB AND GRASSLANDS Here we find Chionochloa, Aciphylla, Ranunculus and Celmisia.

SNOW TUSSOCK MEADOW (OR HERBFIELDS) These could be described as stabilised fellfields and contain Ranunculus and Celmisia

FELLFIELDS (unstable screes) DEBRIS AND ROCKY PLACES These are the homes of Raoulia, Leucigenes, Aciphylla, Celmisia Cyathodes

NIVAL this is the area of permanent snow, and has no plants.

The tussock scrub and meadows cover immense areas, but there is none of the green colour of our European meadows to be seen. The dominant effect is like that of a stubble field. This is because during the summer months Chionochloa tussocks become bleached to the colour of flax.

The conditions of the Fellfields are very difficult to reproduce in this country. New Zealand generally has milder winters and cooler summers than we do, because of the influence of isolation in a vast ocean. In the Alpine Zone fierce weather is encountered with strong winds, fog and mist. There are extremes of very high day temperatures during the summer, and very low night temperatures.

Plants are adapted for survival by dwarfness, creeping habit, wooly or waxy leaves or hairs. They have deep running roots to a plentiful supply of cool melting snow water just below the shingle. It is highly oxygenated and at night is replenished in the more static areas by almost complete satuation from mist.

The popular Celmisias, for example, can be given fibrous, peaty, moist soil, but they detest the dry summers without ample root moisture of much of Britain. Even worse is the cold wet winter. In their native land (including the Australian Alps) they are protected by a blanket of snow, giving complete dormancy without freezing at the roots. The Scottish West Coast gardens such as those at Inverewe and Logan along with Jack Drake's nursery at Aviemore (where there is winter snow) seem to offer the most favourable conditions. They have the influence of the Gulf Stream Drift,and ample moisture. Some of the more favoured southern areas such as Devon and Cornwall are in fact worse for over-wintering. They have higher daytime temperatures, which encourage continued growth, but also night-time condensation. These alternate with sudden cold spells, which freeze both top growth and roots. After a few cycles of this kind of weather many plants give up and die. Over much of southern Britain summer spraying and winter glass protection is essential for most species. Similar treatment is required for most species of Aciphylla.

How to grow Aciphylla

Aciphylla seed is best planted in the northern autumn, even though it will usually be received some time between April and September. The seed requires a period of exposure to cold before it will germinate. Most species of Aciphylla will not survive a British winter unless they are given a collar of grit around their stem. This applies whether they are kept in pots or in the ground. In the ground the collar should be at least an inch deep, in a pot half an inch will be sufficient. Being umbellifers Aciphyllas have a long tap root. They have been grown with success in lengths of clay drainage pipe. Two species have survived their roots being frozen when grown this way, but the general application of the technique is not known. It is probably advisable to bury the pipes in the ground overwinter.

Acacia terminalis by Jeff Irons

The common name of Sunshine Wattle indicates that this should be a good acacia - it is. Known formerly as A. botrycephala and before that as A. discolor it is an excellent winter flowering species. In cold areas it should be grown indoors, but in mild parts it can be tried outside. In Wirral it is hardy to -10°C. The form I have, and of which we still have seed to spare, was collected at 3000ft, on the upper limit of the sandstone of Australia's Blue Mountains. Its location was described as being "so dry that even grass won't grow" That seemed to me to indicate a plant that would stand up to not being watered! The eventual height is expected to be about 4ft (1.3m), but in the 6th year my specimens were only 16" (40cm) high, and produced their first flowers. The terminal racemes appeared in September and opened from November to March. As the common name suggests, they were a good bright yellow. This is a good plant for the cool greenhouse or conservatory.