Australasian Plant Society

The changed name at the top of this Newsletter will come as a surprise to those readers who were unable to attend the AGM. It has been made as the result of a discussion about the Society's future. Putting things simply, the meeting decided that the personal contact which results from an annual meeting is a valuable part of its activity. It is also costly, and the slow growth expected from a society devoted only to Australian plants would not bring in a subscription income which is large enough to cover the current costs. Consequently it was decided to enlarge the sphere of interest to include New Zealand. Though much of New Zealand's flora is unique, there are areas of commonality between the two countries, and several members already grow New Zealand plants. The new society will actually meet their needs better than the old one. This, and all future Newsletters and meetings will reflect this larger field of interest. If you were not at the AGM and have any views on the matter, please send them to Jeff Irons for wider consideration.

It may seem to be a long time away, but the time and place of next year's AGM need to be decided soon. Several possibilities come to mind. Should there be a south, south western or northern venue? Where should it be? Should we make a week end of it, with one day of business and talks, and one of garden visits? Please will you let Jeff have your views, but please remember that a guest speaker will probably require both a fee and travelling expenses. One possibility which might be relatively inexpensive would be to hold the meeting at Ventnor Botanic Garden, with a talk by its curator. Would that suit our few northern members?

New Zealand by Brian Halliwell

By way of introduction to New Zealand I thought it desirable to tell members a little about the country and its plants. New Zealand comprises a string of islands between latitudes 29° and 55° south, stretching from the sub-tropics to the Antarctic fringes. Whilst New Zealand is the second largest country in Australasia, it is more than a thousand miles east of Australia. Whereas Australia is an ancient land mass more than 400 million years old, New Zealand is young geologically speaking (about 20 million years). It is situated on a geological fault which runs around the perimeter of the Pacific land masses. There is geothermal activity, and earhquakes are frequent.

The Southern Alps run along the length of the South Island parallel to the west coast, rising to Mount Cook at 12 349' (3764m.). There are many mountains in this range above 7000' (2100m), which is the permanent snow line and there is a number of glaciers. In the North Island the greatest altitude is the peak of Mount Ruapehu, 9175' (2796m.). this is an active volcano, as are the other highest peaks. Permanent snow lies only on Mounts Ruapehu and Egmont, 8260' (2517m.). Prevailing westerly winds deposit the highest rainfall on the west, and thelowest on the east.

The average altitude of the tree line in the North Island is just under 4500' (1400m.) and in the South Island about 3500' (1050m.). In the South Island there is dense rain forest of Nothofagus and Podocarpus along the western coastal strip, but to the east of the Southern Alps there are treeless plains. The native trees were burnt by successive Polynesian and European settlers, and such trees as occur now are introductions from Australia and Europe.

Apart from birds there are no native mammals although there is a reptile: tuatara, a lizard like creature.

The two dominant Australian tree genera: Acacia and Eucalyptus are absent from New Zealand. Whilst there are families and genera common to both countries only a few species are shared. In fact 80% of all New Zealand plants are endemic and the figure for the alpine flora is 93%. It has been suggested that this high percentage of endemism indicates that the flora of New Zealand is still in the process of evolution.

As with Australian plants there are many in New Zealand which exhibit widely different plant forms in their juvenile and adult stages. Gardeners must remember this when seedlings of New Zealand plants are so very different from illustrations of plants in flower. These extremes of form are said to indicate that climatic conditions in the past have been vastly different from those experiencedttoday. Peculiar to New Zealand is the divaricating habit to be found in species of some genera: e.g. Corokia, Hoheria and Sophora. As each node develops the direction of growth changes, with shoots tending to grow in rather than outwards, so that a young plant resembles a crumpled piece of wire netting.

There is a high percentage of dioeciousness, where male and female flowers are produced on different plants. In order for gardeners to have fruit both sexes must be present in a garden.

White is the dominant flower colour followed by yellow; red and blue are uncommon. There are white flowers which may be shaded with pink or mauve, or where there are red or blue lines on white petals. The cause of the predominance of white flowers is said to have resulted from the kinds of pollinating insects which exist there. Moths pollinate white flowers, which are more easily seen by these nightflying insects. Yellow flowers seem to be mostly pollinated by flies. The lack of flower colour is compensated for in the greater range in fruits.

Lowland New Zealand plants tend to be tender or on the verge of hardiness. Even those which are tolerant of cold can be damaged or killed when winters colder than average occur in the British Isles.

High mountain plants are difficult to bring through summers, at least in the South of England. These plants, which in nature are protected

in winter by a permanent snow cover are growing in summer in a permanently moist soil in an atmosphere of high humidity. These conditions are more likely to be found in the west and north of England, in Scotland, and much of Ireland.

Notes on seed germination.

Billardiera seeds, like those of many other Pittosporaceae have either a built in mechanism to delay germination, or a built in inhibitor. Some success has been obtained in wet summers by surface sowing Billardiera seeds on the surface of a moisture retentive compost, then placing the pot outside. Dewi Price has come up with a more controllable method. His advice is to place the seed in an old stocking and suspend the stocking in a lavatory cistern for 6 weeks. The repeated flushings of the cistern provide the water changes necessary for elution of the germination inhibitors. To get sufficient growth for overwintering of the young seedlings, the operation should be timed so that sowing takes place no later than the beginning of July.

Jeff Irons reports good germination of Pittosporum bicolor in spring 1989 from seed sown in June 1988. This species would appear to be a suitable one for experimentation with the Price method.

Drymophila cyanocarpa(Convallariaceae) is another very desirable plant which is found to be difficult to grow from seed. In this case the seed needs a cold spell to initiate germination, but will notstand being frozen. Successful germination has been obtained by mixing seed with moist peat, placing in a polythene bag, placing in a domestic refrigerator for 6-8 weeks, then sowing. Treated seed germinates within 5 to 28 days.

Some members have asked why they cannot germinate Olearia seed. In this instance the reason appears to be self-sterility. This is very common in the Asteraceae; at least two and preferably three adjacent plants being needed for production of viable seed. A known exception among Olearias is O. phlogopappa, which will not only give viable seed from one plant, but also will self sow into low ground cover such as Parahebe x bidwillii.

Gaultheria depressa by Brian Halliwell

Ericaceae has sparse representation in Australasia, with only two genera present: Pernettya and Gaultheria. From these two genera one species only is common to both Australia and New Zealand - Gaultheria depressa. This low growing evergreen shrub occurs on wet peaty soil on mountain moorlands in Tasmania, and in North, South,and Stewart Islands in New Zealand. Stems, which are spreading and at first prostrate, may with age build up into low mounds. Leaves though variable in size and shape are usually roundish and up to ½" (12mm.) in diameter; there are rounded teeth along their margins, which have lines with tiny bristles. In summer inconspicuous tiny urn shaped flowers are produced singly in the nodes, and are followed by surprisingly large fruits, about ½" (12mm.) in diameter. These may be red, pinkish or white in colour. These are composed of dry capsules surrounded by

swollen fleshy calyces. The minute seed offers a ready means of increase if sown on the surface of a well drained peaty compost. Seed being so fine, it it is difficult to sow thinly and so is better if mixed with a quantity of powdered dry soil. Seedling development can be slow, but plants should be potted singly into small pots using a peaty compost, as soon as they are big enough to handle; take care not to overpot. Until ready for planting out, keep the containers plunged in a shady frame and ensure that at all times they are waterd well; overhead spraying with water in dry or warm weather, in addition to watering, is beneficial. Plants can be put out into a cool, moist and shady peaty pocket on a rock garden, but are better when planted in apeat garden.

This is a highly desirable plant for a peat or rock garden for its attractive fruits. It always performs better in the cooler wetter north of of England, Scotland or Ireland.

Gaultheria hispida by Jeff Irons

Much larger than G. depressa this Tasmanian endemic is usually seen as an evergreen shrub up to 39" (1m.) high. A characteristic feature for identification is the glossy leaves. They are usually lanceolate to elliptical with pointed tips and short stalks. The mid-ribs and branchlets are covered with brownish hairs and the leaf margin is very finely serrated. The leaves are usually about 2" (4-10cm.) long. The common name of Snow Berry refers to the prominent white fruits, which are about ½" (10mm.) in diameter.

Cultivation is similar to that of G. depressa except that growth is more rapid, 4-5 year old plants can be expected to be 9" (20cm.) high. The natural habitat is the understorey of wet sclerophyll and rain forest, so a moist shady spot in the garden is ideal. The late Lord Talbot used to comment that it self seeded at Malahide. This Gaultheria is offered by several U.K. nurseries, so since hardiness is related to provenance it would be wise to inquire whether the plants offered are vegetatively propagated or seed raised.

Libertia pulchella by Brian Halliwell

Belonging to the Iris family, the genus Liberia has one species, Libertia pulchella, which occurs in both New Zealand and Australia (Tasmania and New South Wales). Fans of perennial leaves are described as reaching 6" (1.5cm.). From amongst these leaves in June or July emerge short inflorescences of a few white starry flowers up to ½" (12mm.) in diameter, to be followed by spherical fruits which are at first yellowish, but which deepen with age to a dull orange. Seed offers an easy method of increase if sown in gentle heat in spring; pot seedlings into small pots using a well drained compost containing peat.

I have collected this species in both the South Island of New Zealand and in Tasmania. The New Zealand plants were found just below 4000' (1300m.) growing in moss near the upper tree limit in Nothofagus forest. In this position the length of the leaves was about 4" and only occasionally longer. At Kew the New Zealand form was easy to establish and came to be planted out in a peat garden, where it grew satisfactorily and flowered; it was killed by the severe winters experienced in the mid eighties. Iwas to find this species on a number of mountains in

Northern Tasmania above 3000' (930m.) in open sites above the tree line growing in crevices or in thin soil over or between broken rock. Fans were often only an inch (25mm.) long and never more than 2"(50mm.) long. At Kew plants were difficult to establish, as are many Tasmanian mountain plants.

This is a charming tiny plant and other attempts should be made to discover discover its cultural requirements and to seek hardier forms.

Footnote by Jeff Irons

I have plants of the Tasmanian form established in a moist sandy soil under the shade of a hawthorn tree, where they have survived the past two winters, but have not flowered. The current issue of'The Plantfinder' lists four nurseries as supplying L. pulchella and I let a fifth have plants last Easter. Highgates nursery will probably have the Tasmanian form, County Park used to have the Tasmanian form and may well have the N.Z. one too.

Stylidium graminifolium by Jeff Irons

The Stylidaceae contain about 140 species, of which only 8 are found outside Australia. The species encountered most often in cultivation is S. graminifolium. It is found in Tasmania and the eastern Mainland States, from sea level to mountain plateaux, is very variable, and requires botanical revision. Because of this variability the description which follows is applicable only to the alpine form, which is found in moist situations ranging from herbfield through to bog. It is a perennial herbaceous plant with an overwintering rosette of basal leaves. These are rather stiff, glabrous, sharply pointed and grass like. They are 2-4" (5-10cm.) long and about ¼" (5mm.) wide. The flower stalk is 12-18" (30-45cm.) long with a spike like raceme of purply pink flowers.

The distinctive feature of the flowers is the column (trigger) on which the anthers and stigma are at the free end. The trigger is bent backwards and when its base is touched by an insect searching for nectar the column springs forward and showers the insect with pollen. At a later stage the stigma receives pollen from another plant via a different insect. British insects seem unable to activate the trigger, and it has to be sprung by touching its base with a sharply pointed object. In this respect it differs from S. adnatum, which does get fertilized by insects.

Propagation is from seed or offsets. Seed should be sown in late spring on the surface of a moisture retentive compost. Germination will occur in between 5 and 50 days. The seedlings should be transplanted into a moisture retentive but open compost. I do not uselime, but have not experimented to ascertain what, if any, is the degree of lime tolerance. Flowering occurs in the 3rd year after sowing. Offsets may be removed in spring or autumn. They should be placed into the same kind of compost that is used for seedlings.

The only nursery known to offer S. graminifolium is that of ASP member Noel Kingsbury. Jack Drake should be offering plants raised from seed collected on Victoria's Bogong High Plains in 1990.

STEWART PARK, MIDDLESBROUGH

Sue Hyams

Let me tell you about my local park, called Stewart Park and its links with Captain James Cook. Stewart Park is in the village of Marton, a suburb of Middlesbrough. James Cook was born in Marton in 1728, when the village was an agricultural community consisting of a number of loosely grouped cottages and farms around the parish church.

In 1786 the manor and estate of Marton was sold to a Major Rudd who built a new mansion, Marton Hall, on an elevated position in the estate near the village. He demolished the Birthplace Cottage but marked the site by a quadrangle of flint stones. In 1832 the Hall was destroyed by fire and the estate was neglected until 1853 when it was bought by Henry Bolckow, one of the ironmasters of the thriving new town of Middlesbrough. Bolckow built a brick and stone mansion on the site of Rudd's old hall and converted the fields surrounding his new home into a park, planting exotic trees and creating two small lakes. In 1858 he erected the granite vase which still marks the site of the Birthplace Cottage.

In 1923 the Marton Estate was bought by T.D.Stewart, a local businessman and former Mayor of Middlesbrough in order to present the hall and park to the town of Middlesbrough to be used as a public park. Stewart Park as it is now known was opened to the public in 1928. However little use was made of the buildings and in 1960 the Council decided to demolish the hall and replace it with a conservatory. The building accidently burnt down during the demolition and all that now remains of Bolckow's mansion is the stone colonade south of the Captain Cook Museum.

The conservatory was opened in 1963 and houses many exotic plants from all over the world. The eastern section of the conservatory contains many plants native to Australasia and the Pacific Islands, places visited by Captain Cook.

Next door to the conservatory is the Captain Cook Museum completed in 1978. The museum tells the story of James Cook and illustrates many of the countries he discovered and explored. Special sound effects complete the story, such as gulls screeching, and waves breaking around the Endeavour.

In 1736, Cook's family moved to Great Ayton, a parish about 6 miles away from Marton. The cottage at Great Ayton where Cook's parents lived from 1755, was dismantled and taken to Australia in 1934, where it was rebuilt in the Fitzroy Gardens, Melbourne.

Some of the plants to be seen in the conservatory include :
Dizygotheca elegantissima False aralia
Callistemon Bottlebrush
Eucalyptus globulus
Eucalyptus gunnii
Various other eucalpts, reaching upto 25 ft high
Grevillea robusta Silky oak
Platycerium bifurcatum Stags horn fern
Cissus antarctica Kangaroo vine
Hoya carnosa Wax flower

New Zealand Cabbage Tree
Musa cavendishii Canary Islands Banana [there were bananas on it when I visited in August]
Tomato Tree from S. America Cyphomandra betaceae [it carries a good crop of tomatoes every year]
Date Palm from N. Africa Phoenix dactylifera
Jasminum polyanthum
15 feet high specimen of Ficus lyrata Fiddleleaf fig from tropical Africa
Columnea banksii and microphylla
Fruiting Monstera deliciosa
Large specimen of the S. American Philodendron bipinnatifidum

Clivia miniata Kaffir lily from S. Africa
Datura suaveolens Angel's trumpet from Mexico
Brunfelsia calycina
Various flowering cacti

Large specimens of
Beloperone guttata Shrimp plant
Various Begonias
Various ferns
as well as seasonal displays of the more typical greenhouse plants, such as Fuchsias, Calceolarias, scented Geraniums, spring bulbs, Streptocarpus, Abutilon, Cinerarias, Schizanthus, Petunias, etc.

So if you are in the area, leave a few hours to visit the conservatory and museum.

STARTING MY COLLECTION OF AUSTRALIAN PLANTS

Sue Hyams

Two years ago, I started my own collection of Australian plants after having been interested in them for several years. After visiting Tresco, one of the Isles of Scilly and Logan Gardens in South West Scotland, where many Australian plants grow outdoors, I decided on having a go at growing my own.

I have a greenhouse which I heat to 40F in winter, so I am concentrating on those plants which are from the cooler regions of Australia. I also have several frost hardy eucalypts in the garden, bought as plants. They make wonderful trees. The foliage rustles in the slightest breeze. The first year of my collection concentrated mainly on buying plants, such as the bottlebrush, birds nest fern and other Australian plants usually treated as houseplants in this country. I found it difficult to buy many plants I wanted, particularly in this part of England [the North East]. Most nurseries specialising in Australian plants seem to be in the south of the country.

So last May, I decided to order some seeds from Chilterns Seed Company in Cumbria. I bought ten different kinds which I sowed in pots of vermiculite in the greenhouse, according to instructions. Germination was eratic, some seeds germinating within days, others not until November, and yet others still have not germinated. Those that did include Melaleuca [the honey myrtle], Kunzea baxteri, Eugenia smithii [lilly pilly], Bursaria spinosa, Kennedya coccinea [Australian bean flower], Cymbopogon exaltatus, and Hardenbergia comptonia [the native wisteria]. When large enough, I potted them into individual small pots of a peat-based compost with added sand and vermiculite. I overwintered all of them, except the Kennedya, in the greenhouse, where they were kept on the dry side to prevent moulds and mildews. It is important to ventilate as much as possible to prevent mildew. They have come through the winter well, and in the last month have put on much new growth. The Kennedya, grew well indoors and opened its first flower on February 3rd. I keep the plant on a north-facing windowsill at the moment, since the sun is too hot for it on the south-facing side. In the summer, I will stand it outside. I also sowed some frost hardy Eucalyptus last year, which I overwintered in the greenhouse. They need watering even in winter since if they are kept on the dry side, their leaves fall off. It is important though not to get water on their leaves throughout the winter months when kept in the cool, moist atmosphere of the greenhouse since they are very susceptible to leaf moulds. They are now about four feet high. I hope to plant them in the garden this spring and coppice every other year.

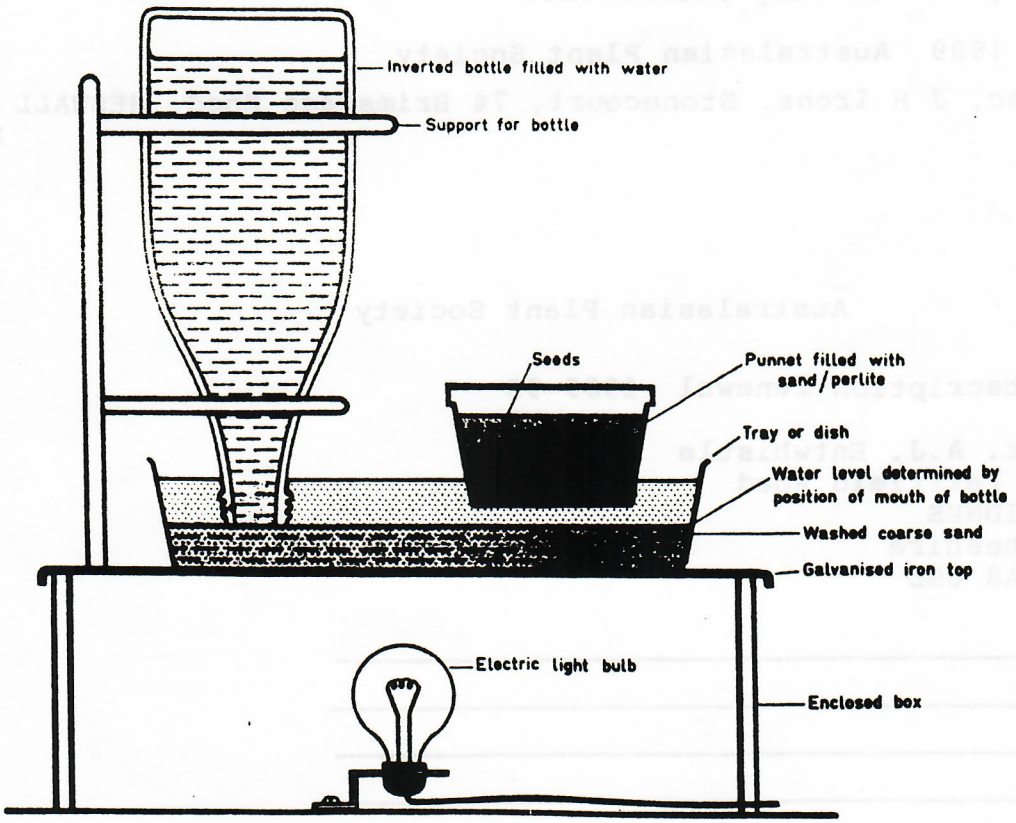
This year I have sown more seeds : Eremaea violacea, Eremophila maculata, Eucalyptus viminalis, Eucalyptus globulus and citriodora, Grevillea robusta, Elaeocarpus reticulatus, Dizygotheca elegantissima, mixed Leptospermums and Cyathea dealbata. I have sown them in a mixture of a peat-based compost and vermiculite, which has proved a very good medium, since the vermiculite absorbs water and prevents the seeds drying out. Some seeds of each have germinated except Eremophila and Cyathea. The Eucalypts germinated like mustard and cress. I have over 100 plants of these two; its fortunate that I can sell my surplus to a friend who owns a florist shop. They make good foliage plants for the house as well as for summer bedding outdoors. I germinated them in an electric propagator indoors, moving them to the greenhouse at the beginning of March, where I keep them moist by sitting them on capillary matting. I've also successfully germinated some Albany bottlebrushes. After four years of sowing in a peat-based compost and having no success, I tried vermiculite. I must have at least fifty seedlings now. By the end of the year I should have some good specimens.

All I need now is a bigger greenhouse to keep all these wonderful plants!

Notes on seed sowing

Sue Hyams note on her lack of success with the Albany bottlebrush raises yet again the question of seed sowing. Perhaps there are as many different ideas on what is a successful compost as there are gardeners, but there are nevertheless some common factors.

One of the most important is the acidity of the compost. A few Australasian plants must have lime, one of them is Wahlenbergia matthewsii, but there are many more which detest lime. The safest way is to use a lime free compost unless it is known that lime is essential. The compost should always be open and free draining, yet water retentive. Sand is convenient to use, but whenever one uses sand the question of porosity arises. Unless the sand is from a source which provides a product of known and reproducible particle size, it is preferable to use something else. A popular material is Perlite, but Brian Halliwell has reported that when at Kew he found that some batches had an alkaline reaction, and were unsuitable for Australasian plants. Jeff Irons uses 50:50 v/v peat:Perlite for everything.Another is a constant moisture level in the compost. Dewi Price achieves this by sowing in a sealed plastic container. Mervyn Fessey sows his seed in small pots which are then plunged in moist sand, which in turn is in a propagator. A method popular in Australia and New Zealand is to use a capillary bed such as that illustrated below.



It is essential to use seed containers which have holes in the bottom so that water can enter them. Though buried in the sand, the seed containers are placed so that they are above the water level, but have water rising to their surface. If the capillary action is broken the compost surface dries out, so that the need for more water in the header tank is easily noticed.

Name changes

Several years ago the Royal Horticultural Society stopped accepting Leptospermum lanigerum and L. cunninghamii in its competitions because of doubts about their names. Now it is known that L. cunninghamii is just a particular form of L. lanigerum. More importantly, it is known that Bentham 'got it wrong', and therefore so did those who followed him. Consequently there are many name changes due in the Leptospermums. Those below are the first we have been told:

L. flavescens is now L. polygalifolium

L. juniperinum from Victoria is now the new species Leptospermum continentale

L. nitidum from Victoria is now L. turbinatum

Another name change is that Stypandra caespitosa is now Thelioneme caespitosa

Subcriptions

Subscriptions for 1988-89 are now due. Will members who have not paid please complete the renewal slip below and post it, with their subscription to Tony Entwhistle.

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Australasian Plant Society

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