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# JOURNAL OF THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE

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## SEASONAL GREETINGS

*IT IS MY GREAT PRIVILEGE to extend on behalf of the Dominion Council the Season's Greetings to all members and friends of this Institute. We hope that you have found the past year most beneficial; particularly so in your horticultural activities and we trust that you will find the future even more rewarding in every way.*

*What does the future hold?*

*There is not one atom of doubt that horticulture will continue to expand and progress at an ever increasing rate and that horticulture and the horticulturist will in time assume their rightful place in our economy and our way of life. At the same time we must be sure that we do not pay too high a price for our gains. For example, with the streamlined marketing of nursery products much of the old-time intimacy between buyer and seller has gone and we have lost something of inestimable value.*

*Conversely the improvement of communications has meant that we know our overseas counterparts, their gardens and nurseries, their plants and their way of life as never before. Literally our horticultural pen friends have materialised into living, lifelong, close personal friends. Could we ask more? Yes, perhaps it is not necessary to lose on the roundabouts what we gain on the swings.*

*Finally may I on behalf of the Institute, Mrs Living and myself wish you all good gardening in all walks of life during the exciting days that lie ahead.*

J. F. LIVING, *Dominion President.*



EDITORIAL

## 1769-1969

WE HAVE BEEN CELEBRATING DURING OCTOBER the Bi-centenary of Captain Cook's first landing in New Zealand at Kaiti Beach, Gisborne. Capt. Cook was not the first European to set eyes on New Zealand's lengthy coasts nor was his landing the only event of great significance to the yet unborn Dominion for in that same year James Watt patented the first high pressure steam engine. Two hundred years later steam as a primary source of power is rapidly declining but no one may gainsay that it was a most important factor in the development of New Zealand.

To our members the great feature of Cook's first visit to New Zealand was the fact that his expedition included two botanists, Mr Banks (later Sir Joseph) and Dr Solander, as well as a natural history artist, Sidney Parkinson. Banks and Solander accompanied the Captain on the first three landings the 8th, 9th and 10th October but owing to a misunderstanding with the Maoris and some bloodshed these were hardly the occasions for botanising and it was probably with a sense of frustration they departed on the 11th having made their peace with the natives.

However on the 22nd October at nearby Anaura Bay Banks records "This morn at daybreak the waterers went ashore and soon after Dr Solander and myself; there was a great deal of Surf upon the beach but we landed without much difficulty. We ranged all about the bay and were well repaid by finding many plants and shooting some most beautiful birds." The study of our flora had begun. Later under date line 24th October at Tolaga Bay Banks states "We ranged all about the bay and were well repaid by finding many plants and shooting some most beautiful birds . . . went ashore this morn and renewd our searches for plants and with great success."

One of the expedition's primary purposes was to observe the transit of Venus and this was done from Mercury Bay on November 9th. Then the exploration of the North Island Coast continued until it arrived at Ship's Cove, Queen Charlotte Sound, where the ship was careened, scraped and caulked. This have must have seemed paradise to the seafarers and they became firm friends with the natives. Banks and his retinue took full advantage of the three week sojourn there to botanise until there was nothing left to gather. Leaving there the **Endeavour** sailed through Cook Strait up the North Island coast to complete the circumnavigation of the North Island. Capt. Cook then turned around and sailed down the East coast of the South Is.

completing the circuit of this island by the end of March. Two mistakes were made. The peninsula named for Sir Joseph Banks was observed from far out at sea and charted as "Bank's Island" and Stewart Island was noted as a peninsula.

Sidney Parkinson died on the voyage home but left a fine memorial to himself in his several hundred drawings of botanical interest including our native flora, true in all particulars and of unsurpassed realism. It is tragic that full use has not made of these or of the descriptions of plants by Solander. It is also saddening to remember that Bank's preparations for a more ambitious investigation into South Pacific floras upon Cook's second voyage fell through owing to differences with the Admiralty for we may be sure he would have taken full advantage of the promising start made upon the first occasion.

However Sir Joseph Banks maintained his interest in the floras of Australia and N.Z. and there is little doubt that in his position of influence as President of the Royal Society, one of the seven foundation members of the R.H.S. and advisor to George III on Kew he was responsible for the introduction of many of our plants to Britain.

Capt. Cook's expeditions awakened interest in the distant lands of Australia and New Zealand and though our sister nation was soon to evoke Crown interest as a prospective penal settlement it was not till the 1840s that serious colonisation of New Zealand started. Nevertheless 1769 was a most significant date in the evolution of this nation at the antipodes, far more important in reality than the discovery by Abel Tasman one hundred and twenty seven years previously. Like-wise it was of great botanical importance introducing to the scientists the rather unique floras of Australia and New Zealand.

Capt. Cook and his team will be remembered not only by memorials of stone and concrete but they will live for ever in the minds of their fellow men.

JOHN GOVER

**LODER CUP AWARD, 1969**

The Loder Cup Award for 1969 has been made to MR P. J. DEVLIN, of Hamilton. This Award is made annually by the Minister to encourage the protection and cultivation of native flora in New Zealand. Nominations for the Award, supported by a statement of their work within the theme of the Award, are invited each year. The cup was presented for competition within New Zealand by the late Gerald W. Loder (later Lord Wakehurst), of England, in 1926.

Mr Devlin is a Science Adviser employed by the South Auckland Education Board, whose early interest in nature study led him to specialise in this field of education. His thesis on "The Place of Native Plants in School Horticulture" was later reproduced in school bulletin form, resulting in substantially increased horticultural activities in schools.

He has concentrated his horticultural educational efforts amongst children and young people and personally has developed the concept of a Junior Naturalist Club in Hamilton. Today, through Mr Devlin's enthusiastic efforts, a field base and headquarters for these club activities is well established amidst 2000 acres of native scenery and bush near Oparau on the Te Awamutu-Kawhia highway. This base is visited by school parties, club members, kindred clubs and the public, for varying periods, to promote an interest in and appreciation of natural history, especially of our native flora and fauna, and to encourage its preservation. Lectures, field trips, camping programmes, public displays, within the educational aims and objects of the club, are organised at evenings, weekends and holiday periods throughout each year by Mr Devlin, the club's supervisor. Several Junior Naturalist Clubs have since sprung up throughout the North Island inspired and encouraged by Mr Devlin and the success of the club in Hamilton.

Mr Devlin has given particular attention to those methods and techniques of teaching which can lead other teachers and students to a knowledge and appreciation of our outstanding forests and wild life. Progressive programmes of study are followed which also provide a sound understanding of the native flora in relation to its environment. There possibly is no better way to encourage its protection and preservation. He himself has become an authority on the native flora and fauna of New Zealand, giving freely of his time and energies to impart his knowledge and experience to others and to foster a deeper interest in native plants, particularly the young, quite outside the demands of his duties as a school teacher. What was his hobby appears to have become his job, to which he is now passionately devoted, and which will possibly have very far reaching effects throughout our Dominion.

Mr Devlin is also a member of the Scientific Advisory Committee of the Tongariro National Park Board, assisting in the publication of booklets interpreting the vegetation and land-forms for visitors to the park.



### **HIGH AWARDS TO N.Z. HYBRIDIST**

ALL INTERESTED IN HORTICULTURE will be pleased to hear of the high honours accorded to Dr J. S. Yeates who recently retired as head of the Botany Faculty at Massey University, Palmerston North.

In February last he was awarded the Veitch Memorial Medal (V.M.A.) by the Royal Horticultural Society, London, for promoting the advancement and improvement of the science and practice of horticulture. This is the highest award the R.H.S. may bestow on anyone from outside Britain and from two to five overseas horticulturists are chosen each year to receive the medal.

Dr Yeates is only the third New Zealander to receive this honour from the Royal Horticultural Society the others being Mr V. C. Davies, New Plymouth, and the late Mr Douglas Cook of Gisborne. Dr A. S. Thomas, the noted rosarian of Melbourne and author of 'Better Roses' is another recipient in recent years (1963) well known to New Zealanders.

Recently Dr Yeates travelled to the World Lily Conference to present two papers on lilies and to receive the Lyttel Cup which is awarded annually for outstanding work on lilies. Without question Dr Yeates is New Zealand's leading hybridist, both past and present, and it is hoped that his example and initiative will be an example to those interested in breeding new varieties in all walks of horticulture. He has raised new cultivars of azaleas as well as lilies and has overcome many difficulties and his hobby has developed into an export business with world-wide contacts. New Zealand has many advantages for hybridists but it also has had the disadvantage of being distant from the world's great horticultural centres and markets. Dr Yeates has shown how to take advantage of the former and how to break into the latter.

In many ways our hybridists are not unlike our space heroes in the quest for knowledge; both seek to explore the infinite.

## LODER CUP COMPETITION

Nominations for this coveted award for 1970 will close with the Secretary of Loder Cup Committee, P.O. Box 450, Wellington, on June 30. Conditions of the award may be obtained from the Secretary.

The award is made to encourage the protection and cultivation of New Zealand's native flora.

Nominating bodies are urged to submit nominations to the Committee who would welcome enquiries from all interested persons.

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## LODER CUP CONDITIONS OF AWARD

### Unsuccessful Nominations to be Carried Forward for Two Years

On the advice and recommendation of the Loder Cup Committee, the Minister of Agriculture, in whose custody the cup rests, has approved of a change in procedure for the annual awarding of the Loder Cup, whereby unsuccessful nominations may now be automatically carried forward for further consideration.

The new procedure will be implemented as follows:—

1. Commencing after the result of the 1969 award has been announced, the unsuccessful nominations from the 1969 competition will be carried forward for reconsideration in each of the two succeeding years; i.e. 1970, 1971. Likewise in each succeeding year. Unsuccessful nominations from 1967 and 1968 will not be brought forward but, of course, are eligible to be resubmitted by nominating bodies in 1969 and subsequently.
2. Nominating bodies will have the opportunity to add to or comment upon the citations of nominations still before the Committee; they are urged to keep the Committee fully informed on information materially affecting such nominations. Twelve copies of such comments require to be lodged with the Secretary not later than 30th June each year.
3. Nominating bodies may continue to submit fresh nominations annually by 30th June, as at present, even although previous nominations may still be under consideration by the Committee.
4. Nominations still unsuccessful after the end of the two-year carry-forward period will lapse, but such nominations may be resubmitted subsequently by nominating bodies, supported by fresh citations (12 copies).

Nominations for the award close on 30th June each year with the Secretary, P.O., Box 450, Wellington, from whom full details can be obtained.



## VOYAGE OF DISCOVERY

By R. W. SHEPHERD, B.Sc., F.R.I.H. (N.Z.), Wellington

A floral display to commemorate the bi-centenary of Captain James Cook's voyage and landing in New Zealand on 9th October, 1769, was recently held in Lower Hutt, Wellington. The exhibition was organised by the Floral Art Society of N.Z. Inc. and involved members of eighty-five different clubs from thirty-six districts throughout New Zealand. It was the first National Exhibition to be held by the society.

The display was opened on the evening of October 9th, 1969, when Captain R. Smith, R.N.Z.N.V.R., Mrs Smith and the official party were piped into the Horticultural Hall, Lower Hutt. A guard of honour was provided by sea cadets from the training ship, H.M.N.Z.S. Tamatoa, at Petone and naval ratings dressed in the white trousers, gold buttoned jackets and flat hats of Captain Cook's day. The official party included the Mayor of Lower Hutt, Mr P. Dowse, the President of the Floral Art Society of N.Z.; Mrs E. Galvin, the Founder President, Mrs E. B. Dobbs; the Dominion President R.N.Z.I.H., Mr J. F. Living and Mrs Living; the Chairman of Wellington District Council R.N.Z.I.H., Mr I. D. Galloway.

After the official opening by Captain Smith, Mr Living announced that Dominion Council of the R.N.Z.I.H. had elected Mrs E. Dobbs, the Founder President, Floral Art Society of N.Z., a fellow of the R.N.Z.I.H. and that he had pleasure in presenting her with her certificate at such an appropriate function.

A silver cup was presented to the bay with the best work and went to New Plymouth, with Lower Hutt the runner-up.

The atmosphere of the exhibition was set with a display in the foyer entitled "*Today Greets Yesterday*" or the "*Mini Meets the Maxi*".

Inside, displays showed the country's development from Cook's first voyage and discoveries to present day space discoveries and voyages. There were many authentic seventeenth century artifacts, charts, and documents used throughout the hall.

Appropriately the Marton Floral Art Group executed the first bay and showed Cook's early life, his studies and his wedding. Marton was named after Cook's birthplace, Marton in Cleveland, Yorkshire. The background to this bay was a large photo-mural of Cook's parents' cottage which was moved from England to Melbourne and can still be seen there. Included in the exhibit with large, old world mass floral arrangements were the extra candles Cook's employer always gave him during his apprenticeship as he showed more promise and dedication to studies than the others.

*"Now sets the wind fair and we will aboard"*. There now followed

four displays dealing with Cook's voyage, his ship the 'Endeavour' (beautifully depicted in flowers), the diet of his crew, the transit of Venus and the food of the Maori at that time. One arrangement included crayfish shells, and sea urchins most attractively arranged whilst another used yams, paw paws, kumeras, etc.

"*The Charting of N.Z.*" covered Young Nick's Head, Tolaga Bay, Three Kings, Ship's Cove, Queen Charlotte Sounds, Banks Peninsula and Cape Farewell. The Masterton Floral Art Group depicted Ship's Cove. The background included a painting of the 'Endeavour' and models of sea birds stood on the sand near the sea. Native flora was arranged in the form of undergrowth and many varieties of stuffed birds were placed to create the atmosphere of our New Zealand bush.

There were courts dealing with Maori legends, Taranaki Maori Wars, Takaka marble and flag raising ceremonies.

Wellington Floral Art Club were responsible for the stage. A Maori whare in one corner had as a painted backdrop a view of the 'Endeavour' at anchor in the harbour at Gisborne. The various displays either complemented this natural setting creating the atmosphere of bush and Maori settlement, or the figure of Captain Cook and the Maori warrior. One modern floral arrangement was outstanding and drew the eye. It used wineberry flowers, unopened pohutukawa flowers, flax flowers, puka leaves, the ribs of nikau fronds and artificial flowers made from a central yam and petals of fibrous material from the nikau palm. Considerable use of the white kaka beak *Clianthus puniceus* 'Albus' was refreshing and highlighted the more limited use of the red clianthus.

To the right of the stage the courts followed the theme "*New Zealand Emerges*". A tribute was paid to missionaries and pioneers and many authentic period pieces such as a mould for making candles, Maori adzes, etc., were featured. The early discovery of gold and coal was depicted by the Horowhenua Floral Art and Garden Club with large arrangements in gold and red.

The Manawatu group's display gave immediate impact and was extremely well designed to show the importance of Massey University and its work and tourism. Almost identical arrangements of arum lilies, except for size, were skilfully linked with each other and with a representation of Massey University, the whole having a rhythmic, three dimensional appeal.

However, the variety in the beautiful floral work in the adjoining bay won the silver cup for the New Plymouth Floral Art Club. The bay was dominated by Mt. Egmont, to the left of this was a beautiful white arrangement, while to the right we had an interesting brown arrangement. The overall theme was wool, sheep, dairy, oil and gas.

An oil rig made from old flowering flax stalks and an upright red arrangement skilfully portrayed oil and gas.

"*Exotic Timber and its Uses*" was well carved out by the Kawerau Floral Art Group. The industries of fishing, flax, timber and geothermal power were shown.

The Dunedin group honoured their "*Scottish Ancestors' Foresight*".

In the "*Hall of Fame*" tribute was paid to Leonard Cockayne, Katherine Mansfield, Edmund Hillary, Cobber Kane, Truby King and last but not least, Rugby.

Johnsonville Floral Art Group recorded New Zealand's history in five stages. "*Treaty*"—the merging of races by pact; "*Immigration*"—hardy European settlers; "*Pioneering*"—clearing the bushland; "*Discord*"—Maori wars; "*Harmony*"—two races combined as New Zealanders.

"*Glimpses into the Future*" and "*Man's Adventure to the Moon*" were portrayed with many and varied modern and abstract arrangements at the foot of the stage by the Wellington Horticultural Society.

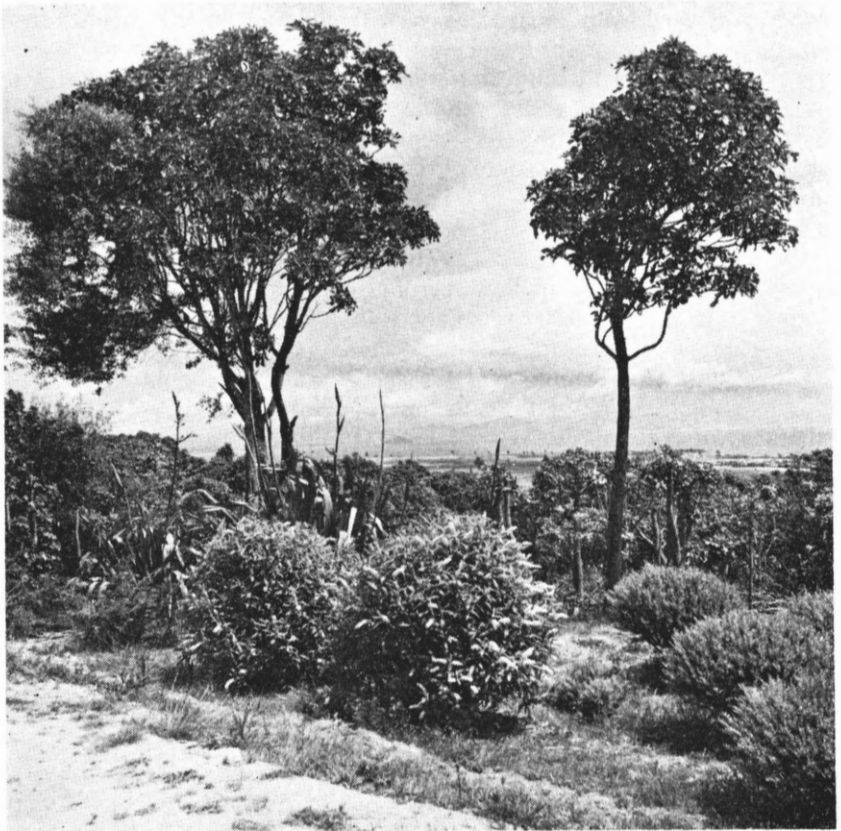
The range and wealth of horticultural material used covered practically everything that was out in flower at the time. One notable impression concerned the arrangement of native flora—some showed characteristics and atmosphere of our bush and flora as they were meant to but the dramatic use of unusual materials such as the base of nikau fronds and their ribs and yams, together with flax flowers, toe toe (sometimes it was pampas), driftwood, white clianthus, etc., gave a unique impression of our flora, certainly not one that Sir Joseph Banks would have perceived 200 years ago.

Although Gisborne was the centre of official celebrations on October 9th, this exhibition deserves the widest recognition, not only for its overall theme and commemorative value, but as a landmark in maturity of floral art in New Zealand. In this the Floral Art Society of N.Z. is to be congratulated in having amalgamated so many groups throughout the country into one organisation which was capable of creating such a worthwhile, stimulating and educational display.

### **BOTANICAL GARDEN AT TAUPO**

Of interest to all members are the successful efforts of several groups including the Taupo District Council to establish the Waipahihi Botanical Gardens. Associated with the District Council in the formation of the Waipahihi Botanical Society which is charged with the administration of these gardens was the Taupo Horticultural and Beautifying Society, the Forest and Bird Society. Their representatives plus representatives of the Taupo Borough Council, the Taupo County Council and the elected representatives of the subscribing members form the Board of Management.

The area of 70 acres of Crown reserve abutting the top of Shepherd Road, two miles south of the Taupo Post Office, plus 15 acres of the



Looking from the access road across Lake Taupo to Tongariro National Park.



The alpine garden at Waipahihi Botanical Garden.

old Napier-Taupo coach road was taken over late in 1965 being covered in second growth and scrub mainly five finger and tea tree. Today hundreds of young native trees and shrubs, 400 rhododendrons including some rarities, azaleas, camellias and an alpine garden grace the area. Other features include a fern walk, a tree fern dell, two nurseries, a metalled access road, car park and some of the finest scenic views around Taupo particularly Mt. Tauhara rising 3,600 ft. in the background and Lake Taupo and the mountains of National Park in the south. A new circular drive connecting the reservoir road with the far end of the historic old Napier Coach Road provides these views for the motorist.

The labour to further this project was mainly voluntary and "do it yourself" working bees of about two dozen members have been a feature of Taupo weekends. The project has captured the imagination of many local residents and visitors to Taupo and there have been many donations of cash, plants and equipment. The emphasis is on our native plants and many of these have been acquired the hard way; by expeditions to milled over areas and these have won for the

reserve many trees, shrubs, ferns and other plants. Other plants are bought with the society's rather limited funds, others are obtained by exchanges with outside nurseries and other encouraging gifts come from interested and helpful friends. Particularly welcome was one member's entitlement of thirty-five rhododendrons from Massey University.

An unique feature of this garden is an area devoted solely to the flora of the Central Plateau of the North Island.

The area is already attracting birds, both native and exotic, notably tuis, whitehead and quail whilst there are claims of sighting wood pigeons. The reserve has not been declared a bird sanctuary but there is little doubt that it is fulfilling this function.

The one great problem of the Society is the practically non-existent water supply. At a pinch the alpine garden may be watered but there is no provision for a water supply along the two roads through the reserve and new plants have to establish themselves the hard way.

The establishment and maintenance of this botanical garden is a great feat for a small local society numbering 168 members of whom 101 are residents of Taupo. The other 67 members are mainly New Zealanders but do include two visitors from California who were so impressed that they immediately asked for membership.

We are indebted to the article by H. C. and E. L. Newell in the 'N.Z. Herald' 27/9/69 for the information on which this summary is based. It is hoped that in the result many visitors to Taupo will make a point of viewing this botanical garden and do what they are able to assist in the furtherance of this continuing project.

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**1970 ANNUAL DOMINION CONFERENCE**  
of the  
**ROYAL NEW ZEALAND INSTITUTE OF**  
**HORTICULTURE (INC.)**  
**FORTY-SEVENTH ANNUAL MEETING & CONFERENCE**  
**OF DELEGATES**

NOTICE is hereby given that the forty-seventh Annual Meeting and Conference of Delegates of the Royal New Zealand Institute of Horticulture (Inc.) will be held in Napier on February 20, 1970, commencing at 9.00 a.m.

The Annual Banks Commemorative Lecture will be delivered at 8 p.m. on the same date.

Members of the Institute and Delegates from affiliated organisations are especially invited to attend the Dominion Conference and the Banks Lecture.

K. J. LEMMON, Dominion Secretary.

**MELANOSELINUM DECIPIENS****(Schrad. & Wendl.) Hoffm.**By *W. R. SYKES, Botany Division, D.S.I.R., Christchurch*

In various parts of this country this large umbelliferous plant with an aborescent or tree-like habit may be seen. It is either cultivated or it may remain as a relic of cultivation, or it may be present in the naturalised state: Fig. 1. Very few people know its botanical name, *Melanoselinum decipiens*, but it is not surprising that a plant with such a strange habit has acquired various common names; e.g. I am told that in southern parts of the South Island it is called Abyssinian palm or perhaps Stewart Island palm. In favourable conditions the total height of a flowering plant may be from 8 to 10 feet and the trunk is hard and woody with a series of rings on the outside and some pith in the centre. A large plant may be several years old but the number of rings does not denote the age in the way that the annual internal growth rings of a normal tree does. Apart from the arborescent habit, the large compound leaf and large flat compound umbel of small white pinkish-centred flowers resemble a number of other umbelliferous plants. In addition, the flattened fruit with its rather large wing on either side is typical of this family.

The original home of *Melanoselinum decipiens* is in Madeira and it is little known in cultivation in North America, northern Europe or other regions. The trend to woodiness in some genera of the endemic flora of many islands is a well-known feature and it is strongly evident in such places as far apart as Samoa, the Cook Islands, Hawaii and Juan Fernandez in the Pacific, and St. Helena and Macaronesia (Canary Islands, Madeira and the Azores) in the Atlantic. It seems to be an evolutionary response to the relative evenness of many island climates as compared to continental areas. There is a good general account of this phenomenon of the development of woody plants from herbaceous ancestors on islands by Dr. Sherwin Carlquist on pages 192-205 of his recent book<sup>1</sup>. In addition to *M. decipiens* there are such well known examples as the shrubby *Chrysanthemum* and *Echium* species which, in addition to gracing so many gardens in coastal parts of New Zealand, do so much to brighten the cliffs of places like the Canterbury Port Hills. The woody species of these genera also nearly all come from Madeira and the Canary Islands. Thus, it is not surprising that *Melanoselinum decipiens* also thrives in New Zealand.

It is tempting to speculate that *Melanoselinum decipiens* and other

<sup>1</sup> Carlquist S. 1965: "Island Life". The Natural History Press, Garden City, New York.



Fig. 1 *Melanoselinum decipiens* flowering in a Riccarton garden.  
The scale is in inches.

Photograph—J. Somers Cocks.

species could have been brought to New Zealand in the very early days of European settlement as a result of immigrant ships stopping in Madeira or the Canary Islands for supplies. This does seem to have been the practice often, for these islands were sometimes the last port of call before reaching this country via the long haul across the southern oceans in the region of the Roaring Forties.



## MAGNOLIA MAGNIFICENT

By T. Y. SEDDON, Wellington

In 1926 John G. Millais in his book "Magnolias" wrote "The man who plants *M. campbellii* must be unselfish—full of hope and determined to live for one hundred years." This is a pessimistic opinion and although young *M. campbellii* plants in England take from twenty-five to thirty years before they display the flowers like glorious pink chalisés yet in New Zealand *M. campbellii* is more precocious and after ten or twelve years of being nurtured by our rich soil and plenteous sunshine they begin to flower.

Whence came this genus of gems in our garden—those magnolias? They date back to the earliest arrival of plant life and are amongst the most ancient shrubs and trees in the world. The genus was named by Linnaeus to honour Pierre Maguol who was a Professor of Medicine and director of the botanic gardens at Montpellier from 1638-1715.

J. G. Millais in his book "Magnolias" describes *M. campbellii* as "a large tree of pyramidal growth 80-150ft in height"—hence it is a tree



*Magnolia campbellii*, Christchurch Botanic Gardens (adjacent to the West Bridge and the Azalea Garden).



*Magnolia campbellii*, Christchurch Botanic Gardens, a closer look at the flowers.

for a spacious garden. I have three *M. campbellii*'s growing rapidly and blooming in my garden profusely. When they attain the height of 150ft I may not be here to direct the woodman's axe. Millais proceeds: "Leaves green elliptic, oblong and ovate, etc., etc.;" "flowers sweet-scented, cup-shaped, 6-10 inches across, pink or rose-white inside, heavily shaded with crimson outside. Petals ovate 9-15in, fruit greenish brown 6-8in long." It grows in its wild state in Bhootan and Siksim, Himalaya at elevations from 8000ft to 10,000ft. It was introduced to England in 1868—there you have it.

About its colour: The pink in the blooms varies from a deep shade of pink to a flush colour in certain trees and in some the colour is almost white. This variation may be due to the nature of the soil or the situation where *M. campbellii* is planted. In New Zealand a celebrated

gardener known as Quaker Mason became possessed of a *M. campbellii*. This famous gardener who lived at the Hutt grew in his garden some gems of other plants as well, such as rare rhododendrons. What year he assembled these shrubs and trees I do not know but the beautiful collection was known as Mason's Gardens and regularly garden lovers pilgrimed to this place in the Hutt Valley to enjoy the entrancing sight of *M. campbellii* blooming in its full glory. From this noble specimen we in New Zealand derived our stock of *Campbellii* and bless the Quaker gardener who brought it to New Zealand.

In our gardens there are now some very beautiful and thriving *campbellii* magnolias. In Dunedin David Tannock very early fell to the charms of this pink flowering magnolia and the specimen in the Botanical Gardens in Dunedin near what is the superintendent's house attracts in August a constant stream of Dunedin gardeners. The tree in the gardens in Christchurch is rapidly becoming grander, more floriferous. In Wellington in Kelburn Grove two *Campbellii* magnolias flourish—one presented by Mrs Charles Haines and one by myself. In the Botanical Gardens in Wellington another *campbellii* presented by Mrs Haines waves hundreds of pink banners to a grateful public. Perhaps in Stratford there is a very mature magnolia *campbellii*. I have a happy memory of visiting the Thomson garden and looking up to the crowded pink blossoms and wondering how an ardent owner of the tree could say "there are two thousand blooms on this tree—I counted them." The members of my War Pensions Board gazing at the tree and Mr Thomson—never checked on this statement.

The popularity of *Magnolia campbellii* in New Zealand is firmly established proof of which can be witnessed if in the month of August you take a motor trip through Taranaki and through parts of the South Island, for this harbinger of spring lights up many gardens and greets a traveller despite the winds and cold and rare sunshine of uncertain August.

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### REGISTER OF JUDGES

I wish to draw your attention to the service now being offered by this Institute in keeping a Register of Judges. When approved for entry in this Register the judge is given a small certificate in a plastic case—suitable for carrying in purse or pocket—and signed by the Dominion President and Dominion Secretary of the Institute. The Register is kept in the office of the Dominion Secretary and lists judges in Floral Art, Roses, Camellias and other specialist Societies.

Nominating bodies take full responsibility that the conditions under which the judge is granted a Certificate are as stated in the application form, which may be obtained from the Dominion Secretary or District Council Secretaries.

## DO YOU KNOW THE DOGWOODS?

By DOUGLAS ELLIOTT, *New Plymouth*

THE DOGWOODS or cornuses are a varied group of trees and shrubs grown either for their flowers, their brightly-coloured stems, or their variegated leaves. Some kinds give you a bonus of coloured leaves or fruit in autumn.

With few exceptions dogwoods are deciduous and hardy. One exception is the species you'll see most often in this country, *Cornus capitata*. Because of its big pink fruit it is commonly known as the Strawberry Tree. Don't confuse it with the Irish Strawberry Tree, (*Arbutus unedo*). This evergreen or, in cold areas, partly deciduous tree comes from the Himalayas and China. In England it is not considered really hard, but as far as I know it never suffers damage from the cold here.

Because it is common (it grows wild in some parts of the North Island) gardeners don't plant it as much as they should. It is a handsome round-headed tree 15 to 20ft high with a spread of 20 to 30ft.

In early summer it turns into a creamy-white cloud of long-lasting "flowers". The true flowers are small and inconspicuous and are crowded into a tight round knob about half an inch across. They are surrounded by four to six petal-like bracts, which are the showy part of the inflorescence.

In the autumn the fruit attracts birds. They taste sweet but are not worth eating though I believe they are not poisonous.

Nearly as well known as the Strawberry Tree is the famous Flowering Dogwood of North America (*Cornus florida*). When young it has upright branches; as it matures the branches arch over to make a very graceful small tree.

In full bloom and with only the first of the leaves unfolding, it is a wonderful sight. Even more wonderful is its variety, 'Rubra', which has rose-pink bracts. If you see it in full bloom against a blue sky you'll never forget it.

Seeing that this species comes from the eastern U.S.A. from as far north as Massachusetts, I have a theory that it needs cold winters to make it flower well. But I agree with R. E. Harrison who says in his "Handbook of Shrubs and Trees," "All (dogwoods) are easily grown in reasonably good soil, but the most attractive specimens are found where a hot, dry autumn is experienced, thus ripening a good crop of flower buds for the following spring display, as well as preparing the leaves for good early winter colouring."

A good substitute for the flowering Dogwood is *Cornus kousa* from China and Japan. It closely resembles *C. florida* but has more sharply-pointed bracts; also it flowers later, in November after the leaves have



*Cornus capitata*  
Photograph—D. Elliott.



*Cornus capitata*  
Photograph—D. Elliott.

unfolded. I've seen it doing well in Mr Les Jury's garden here in New Plymouth, which shows it does not mind the lack of really low winter temperatures and the absence of a hot, dry autumn. Like *C. capitata*, it bears pretty "strawberries", which are said to be edible.

The fourth species with showy bracts is *C. nuttallii*, generally considered the best of all. I have seen only young plants but even they were spectacular when in flower in October. There are four and sometimes as many as eight bracts to each flower, which may be 6 inches wide. The bracts are rounder than those of the other species. They are first cream, then white flushed with pink.

The plant is variable; in its habitat on the west coast of North America, where it ranges from British Columbia to Southern California, it is sometimes a tree 80 to 100ft high but often is only a shrub. It is unlikely to grow big in gardens and catalogues hazard a guess of 15ft.

Because it comes from a comparatively mild climate it seems likely to do well here. It is certainly worth trying.

The coloured-stemmed dogwoods are grown almost exclusively for their winter effect and are especially suitable where there is a scarcity of winter flowers or coloured foliage. They look best when grouped boldly on a big lawn and they need plenty of light to develop and show up their colour. They all have small insignificant flowers; some have attractive white or bluish-white fruit.

All are bushy plants with a mass of stems rising from the base to a height of 6 to 10ft.

According to catalogues I have referred to, four kinds are available: *C. alba* 'Sibirica' and 'Spaethii', *C. Baileyii*, and *C. stolonifera* 'Flaviramea'.

'Sibirica' has bright coral-red stems and bluish fruit. *C. bailezii* resembles 'Sibirica' but its stems are bright reddish-brown and the berries are white. 'Flaviramea' is what the Americans call the Golden-twig Dogwood, which, as you'd guess, means the young stems are yellow. The fruits are white.

I have left 'Spaethii' till the last because though it has red stems it is grown mainly for its beautiful leaves. Here is what W. J. Bean says about it.

"Undoubtedly the handsomest of all the variegated cornels, and perhaps the most effective of all deciduous yellow-variegated shrubs in cultivation. A mass on a lawn has a most striking aspect all the summer through, for the plant has the great virtue of never having its foliage scorched by summer sun, although the major part of the leaf is bright yellow; nor does it become dull as the season advances, like many shrubs of this colour do."

Bean then tells this story: "When visiting Mr Spaeth's nursery



*Cornus florida*

Photograph—D. Elliott.



*Cornus nuttallii*

Photographs—D. Elliott.

at Rixdorf, near Munich, many years ago, I was told that this remarkable shrub originated there on a stem of ordinary *Cornus alba*, on which had been grafted a scion of the variegated sort. The graft died, but just beneath the point of union a yellow variegated twig appeared, which was removed and propagated, and is the var. *Spaethii* as we know it to-day." "Trees and Shrubs Hardy in the British Isles."—W. J. Bean.

And now I'll answer that question you have almost certainly been asking yourself: "Why are these plants called dogwoods?"

I was puzzled by this myself and was delighted when at last I came across this explanation in Bailey's "Standard Cyclopaedia of Horticulture": "The name dogwood comes from the fact that a decoction of the bark of *C. sanguinea* was used in England to wash mangy dogs."

This species, *C. sanguinea*, is known as the Common Dogwood and grows wild in Europe including the south of England. Bean says, "It is a shrub of undistinguished character, its chief value being in the fine autumnal red of its leaves. The specific name applies to this and not to the young bark, which has nothing more than an occasional dark red tinge on the exposed side."

And to end on a practical note I must quote the rest of Bean's essay: "The wood is tough and hard, and is used for making butchers' skewers and such like."

I can't help wondering if that specific name of *sanguinea* has something to do not with the "autumnal red of the leaves" but with the bloody red of the butcher's meat.

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### PLANT RAISERS' AWARD

Nominations for the above Award for 1970 are now invited and may be submitted to the Dominion Secretary of the Institute, P.O. Box 450, Wellington, by June 30 (closing date).

The Award is granted to individuals or organisations duly nominated, who have raised in New Zealand a cultivar considered to be sufficiently meritorius.

A cultivar is an assemblage of cultivated plants which are distinguished by any character significant for the purposes of horticulture and which, when reproduced sexually or asexually, retain their distinguishing features. The terms cultivar and variety are exact equivalents.

Any District Council of the Institute, or any Horticultural organisation affiliated, or any incorporated horticultural society, may submit nominations.

Conditions of the Award may be obtained from the Dominion Secretary of the Institute.



## NEWS FROM DOMINION COUNCIL

### New Fellowships

The following were elected by the September meeting of the Dominion Council:

**Auckland:** Dr. L. H. Millener, Mr T. N. Flint; **Waikato:** Mrs C. G. Morgatroyd, Mrs D. K. Mortensen, Mr J. E. Mortensen; **Wellington:** Mrs E. B. Dobbs; **North Taranaki:** Mrs G. V. M. Collind, Mr H. W. Honnor, Mr G. C. Yeates.

### New Publications

"STANDARD COMMON NAMES FOR WEEDS IN NEW ZEALAND" published by the N.Z. Weed and Pest Control Society and referred to in the remits adopted at the Dominion Conference, 1969, is now available through the usual channels at \$3.00. (See R.N.Z.I.H. Journal Sept., 1969, page 182.)

"RECORDS OF DISEASES OF NATIVE PLANTS" by Miss Joan M. Dingley, Plant Diseases Division, D.S.I.R., Private Bag, Auckland.

### Membership Brochure

This is being reprinted and should be available shortly.

### "Tree Planting on Arbor Day"

One of our Fellows has kindly offered to bear the cost of a new edition of this booklet and this will be reprinted with an additional section relating to the origin and history of Arbor Day.

### Eastwoodhill

It was agreed that the Institute cannot accept this property and alone undertake the responsibility for it; furthermore that the Institute could lend support, however, to the formation of a local Trust or Society in Gisborne assisting to publicise and solicit financial help nationally.

## CULTIVATED ANGELICAS IN NEW ZEALAND

By W. R. SYKES, Botany Division, D.S.I.R., Christchurch

In many gardens from North Auckland to Southland there is a biennial or short-lived perennial plant known simply as angelica. To most people this is the culinary angelica of the cookery books, the pleasantly aromatic stem of which has been used for candying for centuries. However, the real culinary angelica is quite different from this common New Zealand garden plant as is shown below and I do not know how the mistake was first made. This true culinary angelica is *Angelica archangelica*: Fig. 1; which is a species indigenous to some parts of Europe and which is naturalised in others such as Britain. Our so-called culinary angelica is really *A. pachycarpa* from north-west Spain: Fig. 2; which as far as I know does not grow in Britain at all, even in cultivation.

These two species need never be confused, although they are in the same genus and both have large compound leaves and large compound umbels of tiny greenish flowers. *Angelica archangelica* is usually biennial, but although the plants tend to have a shorter life than those of *A. pachycarpa*, they generally grow at least twice as tall. In my garden on the dry Canterbury Plains plants of the former grow to between five and six feet tall whereas even in the shade *A. pachycarpa* plants do not exceed three feet. The most obvious difference between the two species is that the leaflets of *A. pachycarpa* are fairly thick and are a deep glossy green above, whilst those of the other species are membranous and are a dull green above. Leaflets of *A. pachycarpa* are also glossy below but in those of *A. archangelica* they tend to be glaucous below and are certainly not shining at all. This feature of glossiness in *A. pachycarpa* extends to the stem, whilst in the true culinary angelica the stems are more or less purplish and often tend to have a glaucous bloom, particularly when young. Distinguishing characters can be found in the umbels but these floral differences need not concern us here except to note that the large cluster of fruiting umbels assume a spherical shape in *A. archangelica* in contrast to the rather flat ones of *A. pachycarpa*.

I have not discovered how or when *A. pachycarpa* was introduced to this country but it has obviously been here for a long time. I failed to identify this plant a few years ago and it was not until I enlisted the help of Dr. Lincoln Constance in California, a leading authority on the Umbelliferae, that the problem was solved. I infer from his study<sup>1</sup> that *A. pachycarpa* must be rarely cultivated, if at all, outside New

<sup>1</sup> Constance L. 1967: The mysterious cultivated *Angelica* of New Zealand. *N.Z. Jl. Bot.* 5 (3): 447-449.

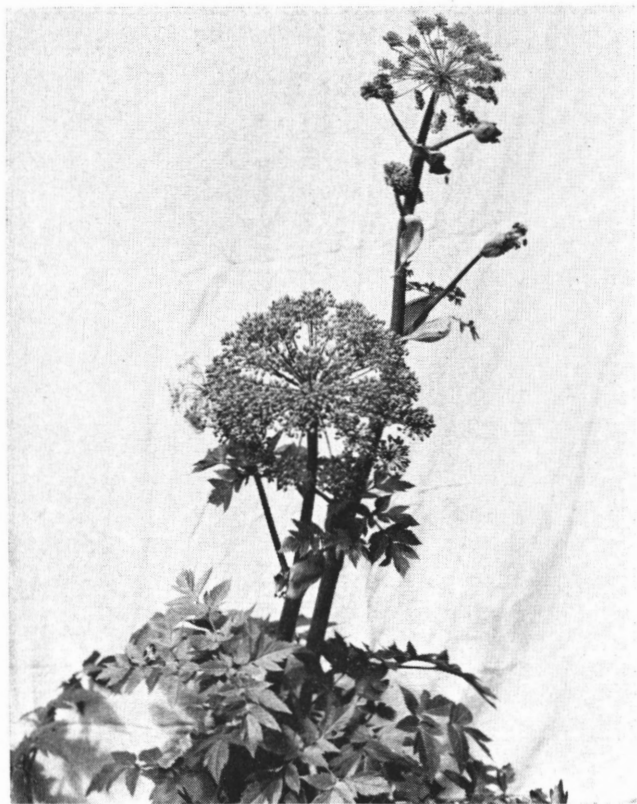


Fig. 1 *Angelica archangelica* growing at Prebbleton,  
Canterbury.  
Photograph—J. Somers Cocks.

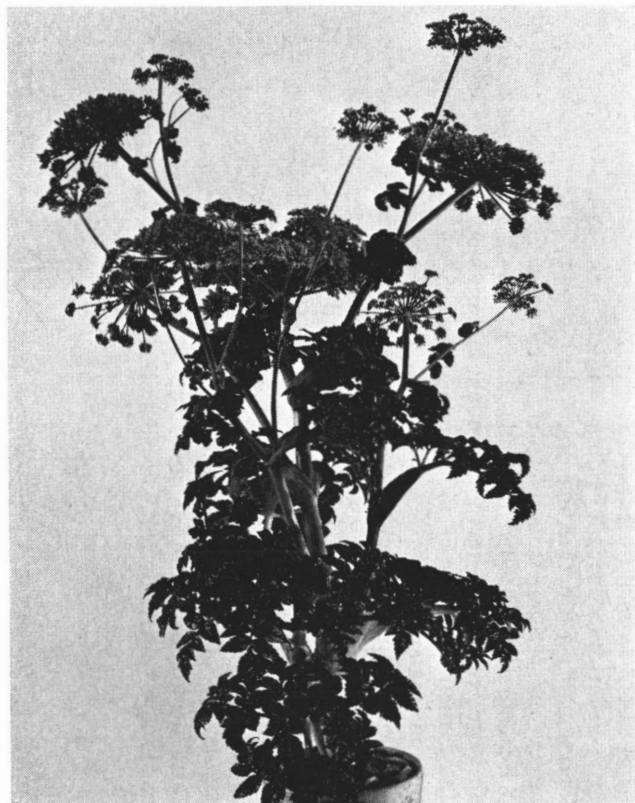


Fig. 2 *Angelica pachycarpa* cultivated in a shade house at  
Lincoln.  
Photograph—J. Somers Cocks.

Zealand. Like so many Mediterranean region plants this species withstands considerable drought and the rather thick leaflets tend to curl and presumably further reduce transpiration. They are more or less evergreen and are not usually damaged by frosts in lowland parts of New Zealand. On the other hand, the thin leaves of *A. archangelica* are much more sensitive to heat and drought and my plants are not as large as those that I remember as being naturalised on the banks of the Thames in England.

Although *A. pachycarpa* stems can be used for candying like those of *A. archangelica*, they are presumably less satisfactory since the angelica scent is much weaker. However, the chief reason why the Spanish species is grown here is because of the glossy leaves which are not only decorative but which last for a considerable time when picked. *A. archangelica* is not very ornamental and also seems to be very rare in New Zealand. The stock from which my plants came was fairly recently introduced to this country. The plants form fruits freely and if there are any readers desirous of obtaining a few I can probably supply them.

### **VOLUNTEER SERVICE ABROAD TROPICAL HORTICULTURISTS**

VSA has assignments for Horticulturists with an interest in tropical fruits and vegetables. The assignments would suit either young men or women with Diplomas in Horticulture, or semi-retired horticulturists. Married couples would be acceptable, provided that the other partner has skills that can be used in the area of service, and is prepared to volunteer. Before taking up assignments, specialised training would be given if necessary, probably in Queensland.

The assignments are likely to be in Western Samoa and Thailand, and in both instances the horticulturist would give instruction in the techniques of small crop, fruit and vegetable growing.

Fares and allowances are paid, and accommodation provided.

For further information write to VSA, P.O. Box 3564, Wellington.

## HORTICULTURAL TOWN AND AROUND PLANTS AND GARDENS ON BANKS PENINSULA (IV)

By L. J. METCALF, N.D.H. (N.Z.), Christchurch

In the September issue of this Journal a general picture of the Port Hills of Banks Peninsula was given, and so in this issue it is intended to give an idea of the range of plants which can be grown. Quite a reasonable percentage of the population of greater Christchurch lives on the Port Hills and understandably, most of the people are very garden conscious. However, it would be quite safe to say that, taken by and large, the full potential of the Hills has not been recognised. Many of the people who live on the Port Hills have moved up from the Plains and often they are not very venturesome when it comes to selecting plants for their gardens. This frequently applies to new gardens and instead of the more unusual plants which would emphasise the difference between the climate of the Hills and the Plains, one sees the same old familiar plants of lowland gardens—Japanese cherries, rhododendrons, silver birches, *Forsythia*, lilacs, *Photinia*, camellias, *Viburnum*, *Ceanothus* and so on. Admittedly many of these plants grow very well on the Hills, but with so many other plants from which to choose a much better range could be grown.

In some of the older gardens, surprising and very interesting plants may be found and it is in them that some of the most imaginative planting is to be seen. This applies more particularly to the Sumner and Cashmere areas, which are the two oldest settlements on the Port Hills. With so many gardens it is almost impossible to conduct a complete survey of the garden flora, and difficult to single out individual gardens and so I propose to deal with my own garden, mentioning some of my successes and failures, and also to mention some other notable plants which grow in other gardens. In this way a fairly reasonable picture of the range of plants which can be grown on the Port Hills will emerge.

Taking my own garden first; it is situated on a small spur at an altitude of about 400 feet above sea level and lies to the north-east. Ground frosts are light and generally only occur during the months of June, July and August, and over the past six years only about one air frost has occurred and that was during this last winter. Generally there have to be about 10 degrees of frost on the Plains before a light frost is recorded on the Hills. The soil is a yellow-grey earth overlying a thick yellow loess and while the natural fertility is fairly high it dries out severely in summer so that constant watering is often necessary. The pH value is low, 5.5, and potash phosphate and iron are deficient. However, in spite of that, the soil suits a wide range of plants.

Quite a number of plants have been put in on a trial and error basis in order to find out the limits of the climate and naturally there

have been some failures. One plant which has done surprisingly well is *Lochroma coccineum*, a shrub up to 8 or 10 feet high, from Central America. The tubular flowers are scarlet, about 2 inches long and borne in many-flowered clusters. The flower buds are formed late in the winter and the first flowering usually commences during October and continues until about Christmas. Intermittent flowering then occurs throughout the rest of the summer. Sometimes the soft tips of late autumn growth may be killed by cold weather during the winter, but apart from that it has proved to be quite hardy.

*Strobilanthes anisophyllus* was another shrub which did remarkably well until it was wrecked by last year's April storm. It had grown into a shapely bush about 3½ feet high and during the winter months the deep metallic colour of the foliage was most effective. However, after having been severely wrenched by the storm it just refused to come away into growth and slowly succumbed.

*Acocanthera spectabilis*, the Natal poison bush, is another shrub which was put in purely on trial and although not quick growing it is doing very well. Particularly during the winter, the foliage takes on a deep purple-bronze colour and while not so intense during summer it contrasts most effectively with the sweetly scented white flowers. The flowers are followed by small plum-like fruits. *Strelitzia reginae* flowers regularly, but this was already known from other people's experience; however, it was decided to try the larger growing *S. nicolai* in a sheltered corner, and while it is only making slow growth it is nonetheless happy.

Another tree which has probably not been tried down this way before, is *Hymenosporum flavum* from Queensland and northern New South Wales. The first specimen planted had reached flowering stage, but was blown out by the roots in April of last year. It has been replaced with another and although it has not flowered the growth is so rapid that it is now about as tall as the original one. *Reinwardtia trygyna* usually grows and flowers well, except at certain times of the year when a fungus disease causes sections of the stem to turn black and die. It makes a particularly attractive combination with *Nerine bowdenii* and *Gentiana sino-ornata*, the whole three, flowering at the same time. One or two other plants which are uncommon on the Port Hills, are *Burchellia capensis*, *Hibiscus huegelii*, *Gampanula vidalii* and *Macadamia ternifolia*.

Among the herbaceous plants kangaroo paws do exceptionally well, *Anigosanthos flavida* being very much at home. The red and green kangaroo paw, *A. manglesii* also grows quite well, but drought conditions sometimes give it a check which affects its flowering. Another attractive Western Australian plant is *Thysanotus multiflorus*, the many-flowered fringe lily. Flowering of this plant is much better on mild days, which are cloudy-bright, rather than bright sunny days.

Generally speaking members of the Proteaceae do well, although as yet only a limited number have been established. One of special note is *Phylica pubescens* which seeds prolifically, the seed germinating underneath the bush. This fact has also been noted with *Protea scolymocephala* in a neighbouring garden, the seedlings appearing quite freely under the bush. Proteas already established are *P. repens*, *P. macocephala*, *P. lepicarpodendron*, *P. punctata* and *P. compacta*. Of the Australian members of the family there are *Banksia ericifolia*, *B. serrata*, *Grevillea punicea*, *G. chrysophaea*, *G. oleoides*, *G. lavandulacea* 'Black Range', and *G. fasciculata*.

Native plants are not to be forgotten and special note might be made of the following: *Clematis petriei* with chartreuse green flowers and boronia scented, *Pomaderris kumeraho*, *Metrosideros excelsa*, *M. carminea*, *Tecomanthe speciosa*, *Brachyglottis repanda* 'Purpurea', *Corynocarpus laevigatus* and *Pseudopanax lessonii*.

*Luculia gratissima* is quite satisfactory, but so far *L. grandiflora* has proved to be a borderline case of hardiness and gets so severely checked each winter, that it has not yet flowered. Because of the drought conditions which at times prevail, South African ericas have proved to be rather difficult. Some species grow perfectly well, but quite a number of others have died with the suddenness which is so typical of them. Part of the trouble is due to the site where they have been grown and so another shadier and moister border for them is being developed. Other plants which have more or less failed, although some may be worth trying in other situations, are *Heterocentron roseum*, *Stephanotis floribunda*, *Plectranthus behrii* and *Iboza riparia*.

Just to finish off this section, the following is a list of plants which are well established: *Agonis juniperina*, *A. flexuosa*, *Micromyrtus ciliata*, *Podalyria sericea*, *Eucalyptus lehmannii*, *E. ficifolia*, *Dais cotinifolia*, *Pandorea jasminoides*, *Tibouchina organensis*, *Hakea laurina*, *Senecio petasites* and *Tetrapanax papyrifera*.

One garden of note belongs to Mr and Mrs J. Fiecken, of Redcliffs. It is tucked into a little pocket under the cliffs which forms a perfect sun-trap enabling a few of the more borderline plants to be grown. Paw paw, *Carica* sp. does quite well and there is quite a fine clump. A banana has also been tried, but this is probably the limit of its hardiness. Another plant which Mr Fiecken has tried, although it is not known whether it has yet flowered is *Dendrobium speciosum* from Eastern Australia.

By way of conclusion I would like to say that although I have criticised some Port Hills gardeners for not making the best use of their gardens, there is still a rich and varied flora to be found in the gardens of the Hills as a whole. A complete survey of the whole area would be most revealing and probably yield quite a few surprises.

(To be continued)

## GROUND COVER IN THE CHRISTCHURCH AREA

(Continued)

By N. W. DRAIN, N.D.H.(N.Z.), Christchurch

(Being a thesis submitted for the National Diploma in Horticulture)

### GENTLY SLOPING OR FLAT AREAS

Many sloping areas, particularly those adjacent to buildings, are often lacking in interest due to the lack of imaginative treatment of the ground surface. Commonest faults are the grassing of areas too small for efficient maintenance or else unsuitable for the growing of grass and the concreting or asphaltting of such areas with no provision for plant life of any kind. Many of these areas are admirably suited to the growing of various cover plants, and these when fully established, require virtually no maintenance.

#### Public Buildings

Examples of cover planting, some of it in association with trees, may be seen at Canterbury University, Ilam, where the Landscape Division of the Ministry of Works is responsible for general landscaping of the university. Large expanses of hard surfacing have been broken with formal garden plots, these being planted with *Ajuga reptans* and specimen trees. One bed against a large building, has recently been planted with a small leaved variety of *Hedera helix*, and present indications are that this planting will establish successfully, and provide a pleasing texture and pattern in contrast with the paving and concrete walls of the building. This particular planting also illustrates the value of a suitable cover plant in a situation where, because of shade and dampness for much of the day, lawn would not be likely to establish satisfactorily.

Another example of ground cover planting in association with buildings is to be found at the Bishopdale Shopping Centre, Harewood Road, where the Landscape Division of the Ministry of Works was responsible for general planting of the area. In one of the parking areas a large dividing plot is planted in *Cotoneaster conspicuus* and *Cotoneaster horizontalis* and these are proving not only successful as cover plants, but provide an attractive display of berries throughout the autumn and winter months. Other plants which have been planted as ground cover include *Hebe obtusata*, *Prostanthera cuneata*, *Euonymus radicans variegata*, *Hypericum calycinum* and *Hedera helix* 'Glacier'. These latter plants have been used separately in small raised beds adjacent to the buildings.

Two valuable functions of cover plants for areas adjacent to public buildings are (a) their ability to reduce dust nuisance such as may arise





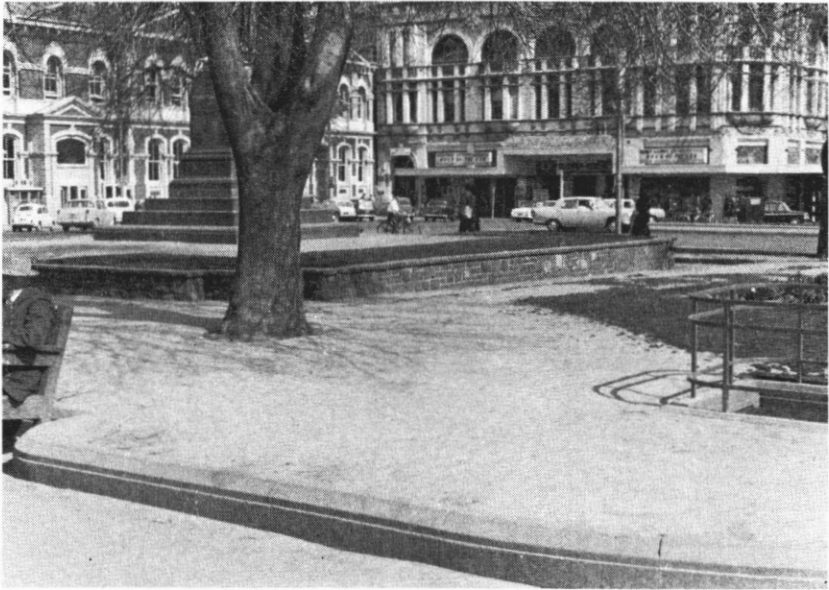
Armagh Court, Armagh Street West, Christchurch.

Photograph—N. W. Drain

from garden plots provided for trees and (b) to provide relief from glare especially where large areas of hard surfacing are required.

'Armagh Court', a group of office buildings in Armagh Street, contains a court yard area which features raised beds planted in small trees and low cover planting. Plants include several different *Erica* species and varieties, *Euonymus radicans variegata* and *Juniperus pfitzeriana aurea*. There is a considerable expanse of glass and concrete included in the walls of the buildings, as well as concrete paving in the courtyard itself, and the plants perform a valuable function in reducing heat and glare. This garden which also features pools and fountains was laid out by the Parks and Reserves Department of the Christchurch City Council.

In public reserves, particularly in the central city area of Christchurch, problems of design and maintenance are apparent, though mainly with the smaller reserves. Some of these consist of lawns and flower plots, and the increasingly heavy pedestrian traffic over the years to which these areas have been subjected, has not only brought serious problems of maintenance and repair, but has resulted in it being virtually impossible to establish grass at all, and though returfing of these areas at intervals, does provide a partial solution, sufficient labour for the work is not always readily available. A typical example is the Godly Plot in Cathedral Square which can only be maintained in lawn by



Godley Plot, Cathedral Square, Christchurch.

Photo—N. W. Drain

regular returfing. A solution to this problem and one which would provide both beauty and function would be to surface the area with some form of paving block, with provision for some ground cover planting in formal plots. (It should be mentioned however, that as the re-development of the whole of Cathedral Square is under review, no new development for any one portion can be considered in the meantime.)

The subject of Hard Surfacing combined with planting is considered in Chapter 6.

A further use for cover plants is on very stony sites where lawn would be difficult or impossible to establish and maintain, or where larger plants would find insufficient sustenance for their survival. An example of these conditions is to be found at the Russley Hotel, Christchurch, where the writer was responsible for the general landscape designing and supervision of the work. Much of this area in its original state was pure river shingle, and because of this, the establishment of lawn and trees was only possible by the importation of large quantities of soil. Certain sloping shingle areas were planted with *Carpobrotus edulis*, this serving not only as an attractive feature, but useful in stabilising the ground surfaces. One area within this garden, originally planted in lawn, suffered so much damage from foot traffic that it was

decided to do away with the lawn and surface the area with crushed rock. *Juniperus horizontalis glauca* was provided as an undercover to some small trees planted earlier in the area. The result was not only more interesting than the lawn, but was more functional also.

Schools, notably the more modern, provide examples of faulty ground surface treatment, the commonest mistake being the grassing of small areas between classrooms; the grass being incapable of withstanding the wear and tear of intensive foot traffic to which it is invariably subjected. These areas would be more functional and attractive if surfaced with semi-hard paving, with some provision for small areas of permanent planting.

### Private Gardens

An increasingly popular form of treatment mainly for flat areas is the use of crushed rock or pebbles as a total soil covering amongst shrubs. This aspect of surfacing is dealt with in Chapter 6, but it may be mentioned here that provided the appropriate type of plant is chosen these will in time provide the principle ground cover; the crushed rock or pebbles acting as a useful cover during the early years of establishment.

In looking at a typical suburban garden of the more traditional design, it is usual to find the main elements consisting of the drive and paths, some trees and shrubs, perhaps a few roses in a border, and a considerable percentage of the total area, lawn. Many of these gardens are attractive, functional and fairly easy to maintain. However, a common fault is sowing down in grass of small areas that are not required for use in the nature of play or walking on. These areas are usually either in front of the house when the house is close to the street, the narrow strip between the house and the side boundary fence, or the space between the drive and the house. Lawn in these areas usually requires a considerable expenditure of labour to maintain it to a reasonable standard. Quite apart from regular mowing which is difficult in small areas anyway, edges have to be cut and general maintenance such as feeding and pest control, attended to.

As an alternative to grass, there are many low growing plants including shrubs, which may be used and these not only require less regular attention than grass, but due to their generally interesting leaf patterns and individual form and character, are more satisfying visually. Some plants suitable as ground cover in these small areas are as follows: *Ajuga reptans*, *Euonymus radicans variegata*, *Calluna vulgaris* and varieties, *Cotoneaster microphylla* and varieties, *Erica carnea* and varieties, *Erica darleyensis*, *Hedera helix*—small leaved varieties; *Juniperus sabina tamarisefolia*, *Juniperus communis hornbrookii*, *Cytisus* species (prostrate), *Nepeta mussinii*, *Thymus serpyllum*.

For garden owners with sloping ground such as hill areas, the points raised and information given in the section dealing with steep banks is applicable here also.

Gardens composed largely of sand such as at the coastal districts of New Brighton and Sumner, where sand movement is a recurring problem and where sloping ground may also be present can be adequately furnished and stabilised by the use of certain plants capable of binding sand and withstanding dry conditions also. These plants are listed elsewhere in this chapter.

With large and mature trees growing in the lawn, there is the problem of establishing and maintaining grass under trees. The dense shade often created by these trees for the greater part of the year makes it virtually impossible to establish grass for any length of time. Fortunately, there are ground cover plants capable of withstanding these conditions, and with adequate preparation of the ground these plants will establish to form an attractive feature. The following are some of the plants suitable for planting under trees: *Ajuga reptans*, *Gaultheria shallon*, *Hedera conariensis*, *Hedera helix*, *Hypericum calycinum*, *Mahonia aquifolium*, *Pachysandra terminalis*, *Vinca minor*.

## **ROADS AND HIGHWAYS**

### **Traffic Islands and Medians**

An integral part of major roads including motorways, within and adjacent to cities, are traffic islands and median strips. Opinions vary on what constitutes the best landscape treatment for these areas. Notwithstanding that hard surfacing and grass have both been extensively used, either of which may still be the most practical and generally suitable in many instances the landscape designer sees here the opportunity for the use of various cover plants. These plants correctly selected as to form and requirements not only add interest and character to a particular area, but also contribute towards the safety of the motorist especially at night, clearly defining limits of travel. However the whole question of general planting and cover planting on motorways and roadways, is an important one, there being a number of very vital factors to consider before definite decisions can be made. In fact, more research is probably required before it is possible to determine the particular species of plants suitable for any given area. Some of the problems to be considered include the fact that only a few plants will grow well in the micro-climate of the narrow motorway median. They are generally windswept, suffer from oil and petrol slick, fumes and excess radiation off the pavements. Of those plants which will withstand motorway conditions, few are of the shape to form an anti-glare screen. Despite the above mentioned factors, there are still situations where

ground cover plantings are to be preferred to other forms of surfacing. The motorway extension of Fitzgerald Avenue provided an opportunity for some imaginative treatment of the centre median. The varying width of this median, combined with a gentle double curve extending from end to end, gave a basic design of considerable strength from which to work. In deciding the treatment to be given to this area the presence of trees in the centre of the old established roadway, indicated the desirability of using some trees in the new portion, together with a cover planting of low growing shrubs. These shrubs include *Hebe pinguiifolia*, *Hebe glaucophylla*, *Hebe albicans*, *Hebe youngii*, *Hebe armstrongii*, *Hebe sutherlandii*, *Erica vagans*, *Erica darleyensis*, *Erica mediterranea rosslare*, *Euonymus radicans variegata*, and *Coprosma kirkii*.

Within the past few years, quite a number of traffic islands have been planted in various ground cover plants by the Parks and Reserves Department of the Christchurch City Council. Several of these plants have shown particular merit and may be regarded as worthwhile subjects for future plantings. In the Ferry Road, Tunnel Road, intersection, *Lonicera japonica aureoreticulata* is deserving of special mention. Though not as tidy as some plants, it has, after three years from planting, formed a very dense cover, and appears to suffer no ill effects from traffic fumes and similar hazards. Recently a traffic island in Papanui was planted with this *Lonicera*. The Riccarton Avenue, Riccarton Road roundabout, features a wide range of cover plants including various ericas, cotoneasters and junipers. Two junipers of particular note are *Juniperus communis hornibrookii*, and *Juniperus communis repanda*. Both of these have formed a low dense uniform cover, and where a tidy low growing ground cover plant is required, either of these varieties would be ideal. Altogether, a considerable variety of plants have to date, been used as cover planting on various islands and median strips throughout the City. In addition to those already mentioned, *Mahonia aquifolium*, *Senecio greyii*, *Hebe dieffenbachii*, *Hebe 'Inspiration'*, *Hebe elliptica variegata*, *Cotoneaster microphylla*, *Juniperus pfitzeriana aurea*, *Juniperus sabina tamariscifolia* and *Hypericum calycinum*, all appear hardy and reliable.

The Landscape Division of the Ministry of Works, have for some years been using cover plants in conjunction with general planting on highways and motorways. The Blenheim Road, Main South Road (Sockburn), intersection, planted eight years ago, contains a number of cover plants almost all of which are still performing satisfactorily. Most out-standing is an island of *Coprosma kirkii*, a dense cover now up to eighteen inches deep, and requiring no maintenance save an occasional trimming around the edges. Another island contains a single planting of *Hypericum calycinum* and this also, apart from an annual cutting



*Juniperus chinensis pfitzeriana aurea.*

Photograph—N. W. Drain

back by rotor scythe, requires no attention. Other cover plants in this area worthy of mention are *Rosmarinus officinalis*, *Hebe decumbens*, *Hebe obtusata*, *Senecia greyii*, *Cotoneaster conspicuus* and *Juniperus horizontalis glauca*.

Other landscaping by the Ministry of Works, featuring notable examples of ground cover planting is on the Lyttelton Tunnel Road. Most outstanding is a planting of *Hedera helix* 'Pin-oak' and 'Chicago' mixed on a large embankment at the Christchurch entrance to the tunnel. This ivy completely covers these areas to a depth of roughly twelve inches and is probably as good an example of a ground cover to be found anywhere. Another attractive planting is *Cotoneaster horizontalis* which shows promise of forming quite a dense cover within the next year or two. Also most attractive is a large gently sloping bank of *Juniperus chinensis pfitzeriana aurea* and the striking character of this plant is shown here to advantage. Another large sloping area contains *Teucrium fruticans*, the silver grey foliage contrasting dramatically with the surrounding landscape. Though rather tall as a ground cover it is useful in some situations especially for covering large areas and is very tolerant of dry conditions. At the Lyttelton entrance of the tunnel are further established plantings of *Hedera helix* varieties, and two traffic islands are completely covered with *Hypericum*

*calycinum*. On the motorway itself, a considerable length of the median strip is planted in *Coprosma kirkii*. This is now well established and it is evident here as elsewhere that this is indeed a first rate cover plant.

## SAND STABILISATION

Sand country exists in many coastal areas throughout New Zealand and sand drift is often a problem in rural and urban areas. Control measures were established under the Sand Drift Act in 1908, and there was Government policy on reclamation and development during the years that followed especially from 1931.

Certain plant species have played a vital role in sand dune reclamation, particularly in connection with afforestation in coastal areas of New Zealand.

Some aspects of this reclamation together with present day problems of sand stabilisation are here briefly considered.

Studies of coastal sand movement have revealed the valuable work performed by certain plants in arresting the natural drift of sand inland. Prior to there being any real appreciation of the function of these plants, destruction of much of this vegetation occurred through grazing of the dunes. The natural vegetation of the dunes was made up of various species of plants, the native pingao (*Scirpus frondosus*) being the outstanding and dominant plant. This was largely due to its ability to grow upwards, seeking the surface light as it was buried by advancing sand.

Due however, to further damage and the consequent inability of this vegetation, including the pingao, to cope with sand drift, marram grass (*Ammophila arenaria*) was planted in its stead. It has all the characteristics of pingao with wide spreading rhizomes and an ability to withstand sand movement. It has a major advantage in that it is impalatable to stock. In the Bottle Lake area, in 1909, a policy of afforestation was decided upon for the purpose of stabilising the dunes and checking their advance. At first different species of pines were planted in an attempt to discover which were best suited to the conditions, and after a number of trials, over a period lasting twenty years, with various types of trees, it became apparent that *Pinus radiata* was the most suited to the conditions. To establish the pines, a reasonable degree of stability was necessary, as the young trees could not with-stand continual movement. To stabilise the sand, marram grass was first planted, followed by a sowing of lupin (*Lupinus arboreus*) to ensure rapid stability. The pines were later planted in lines cut through this vegetation.

After New Brighton was settled, it was realised that some form of protection from sand blowing in from the sea, must be provided. Over many years, various brush fences were constructed in an attempt to

prevent the sand moving down on to the adjacent road and into the houses opposite. In 1941, when the New Brighton Borough amalgamated with the City, these fences were rebuilt by the Christchurch City Council and a fairly effective foredune was built up. Marram and lupins were planted on the dune to give it greater stability and in later years further planting was carried out from time to time. Various introduced plants, in addition to those already mentioned have been effective in binding and stabilising the sand. These include broom, gorse, iceplant and a number of common garden weeds and grasses.

From Waimairi to South New Brighton marram grass is now the dominant plant and its value as a stabiliser is apparent. There is however, some sand movement and this is a problem at Central New Brighton particularly, where the sand builds up over lawn and flower beds.

Along the Sumner foreshore some planting of marram grass was carried out a few years ago, and though this is becoming established, further planting mainly between existing plants appears desirable if a reasonable degree of stability is to be achieved. Some lupin and iceplant are also growing in the sand adjacent to the road and it is obvious that these plants too, are assisting in controlling the movement of sand in this area.

(To be continued)



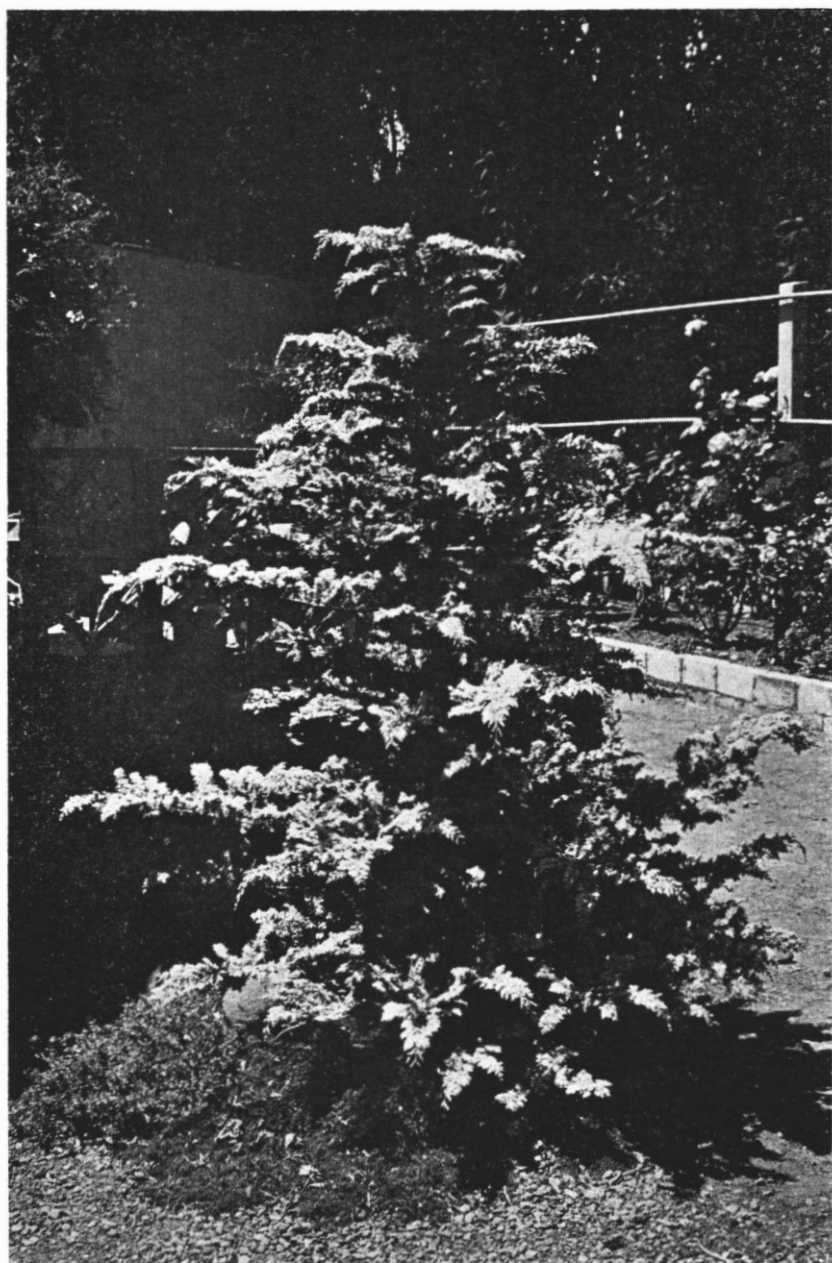
## **CHOOSE A CONIFER**

*By J. A. HERAND, Waimiha*

If I had to choose a tree to live with, and only one tree, bearing in mind our King Country climate, I would choose a conifer. Admittedly I would miss the flowering cherries, rhododendrons and so many other lovely ornamentals, but in the final analysis I find that right through the year the conifers have the form and colour which are satisfying to look at and accommodating to live with.

Icy winds and driving rain will rattle our deciduous trees and frosts may disfigure our flowering shrubs, but the comfortable conifers to whom I turn stand firm and unscathed. And to prove their worth further they become transformed in winter into fairy tale trees with all the glisten and sheen of a traditional Christmas card. The bright summer yellows, greens and metallic blues turn to rich gold, glaucous and smoky greens and sparkling silver. Others turn to bronze and burnished





*Chamaecyparis obtusa tetragona aurea.*

copper. And that is not all. The variety of forms and shapes of these trees are just as exciting.

There are those that look like giant candles or exclamation marks such as *Taxus baccata* and *Chamaecyparis lawsoniana* 'Ellwoodii'. There are others that are broader and have branches that extend upwards like the Mexican pine, *Pinus patula*, or they may weep like *Cedrus deodara*. branch of the family are prostrate growers. They look well where they are given the opportunity to meander over boulders or nestle amongst a planting of trees and shrubs of contrasting habit. *Juniperus sabina* 'Knaphill' performs these functions in our garden. However, I would class *Juniperus communis depressa aurea* as the aristocrat of prostrate growers. It produces layer upon layer of branches extending outward faster than upward. Its summer dress of green turns to frosted gold in winter and in spring it is a delightful picture of green overlaid with yellow.

The colour interest of conifers is far from being confined to the winter, though for many the cold weather does bring out special effects. At all times these trees, large or small, are good furnishing material to be enjoyed as specimen trees, hedges or woodlots, ornamental and functional. There are a host of conifers to choose from with styles and dimensions to suit every taste and requirements and almost every climate.

My favourites of medium garden size are, *Chamaecyparis obtusa tetragona aurea*, *Chamaecyparis pisifera plumosa aurea* and *Thuja Orientalis* 'Beverlensis.' These are all gold in summer turning to deeper and richer tones in winter.

Of the smoky green and silver tonings I like *Juniperus chilensis pfitzeriana*, *Juniperus squamata meyeri* and *Chamaecyparis lawsoniana ellwoodii*. These take on a wonderful frosted glitter in our garden in winter.

For the large garden of ample space and vista, I would include *Crytomeria japonica* 'elegans,' *Cedrus deodara* and *Cupressus macrocarpa aurea*. These three will give a winter display of bronze, silvery green and gold.

For the alpine garden I would not be without *Thuja occidentalis* 'rheingold', *Thuja occidentalis aurea nana* and *Juniperus communis*.

*Compressa*, a mini-candle. The dwarf conifers have a charm all their own and never fail to attract admiration. They provide a very attractive foil for alpine plants and rocks and add much in the way of substance and form to the miniature landscape.

I have named only a few of a very large and ever increasing family. I plan to add further to our collection of conifers and increase our repertoire of colour, texture and form. It is just as well that I am not limited to choosing only one tree.

**DISTRICT COUNCIL NOTES****SOUTH TARANAKI**

This year has brought varied interests to the South Taranaki District Council, beginning with a delightful 'garden prowl' in North Taranaki organised by the energetic Secretary of North Taranaki District Council, Mr H. V. George. About fifty members visited the garden of Mr and Mrs C. Ludeman in Inglewood where against a setting of old trees were found beds of roses in bloom, a dell where astilbes, primulas, rhododendrons and other moisture-loving plants were flourishing and a new conifer garden was being established. Some delightful views of Egmont and ranges, and of Ruapehu, Tongariro and Ngaruahoe were captured by cameras on the highest parts of the road leading to Tikorangi and from the garden of Mr and Mrs Herman Honnor. Here, on a section which fifty years ago was treeless, Mr Honnor has himself established trees in variety—a stranger to many of the visitors being a lovely jacaranda in full bloom. This graceful South African, with its sprays of lavender-coloured flowers was much admired.

This is too large a garden to be seen on a short visit, but a kindly owner promised other opportunities to tree lovers! Here too was found a memento of an earlier day in New Zealand's history; a stone pillar erected by the Government to mark the burial spot of some fifty Maori warriors slain in battle on the outskirts of the neighbouring pa, Te Puke Rangiora.

A visit to Onaero beach, and a little glass house tucked away between folds in the hills, then to a budding conifer garden with established trees and a shade house nursery revealing thousands of tiny conifers at their very beginnings. Then came a visit to the last resting place of one of New Zealand's illustrious sons, Te Rangi Hiroa, who left his first profession of medicine to work as a scientific anthropologist, won recognition overseas, and returned to New Zealand to rest his ashes in his native soil—his last resting place marked by the proud prow of a canoe in the bush-clad hills near Urenui.

*APRIL* brought a good attendance at the first circuit meeting at Patea, with a programme planned to help the gardener coping with difficult weather conditions. Mr Burgham, of Eltham, spoke of cacti; Mr Wilton, of Hawera, on the laying out and planting of pebble gardens, showing specimens of suitable plants including bamboo, nandina and papyrus; Mr R. W. Barry, also of Hawera, spoke of plants suitable for windy conditions, displaying in pots specimens of conifers, hebes, flax, grevilleas, etc. Mr and Mrs Trott, of Hawera, completed the programme with a talk on the propagation of their display of house plants.

*MAY* brought another circuit meeting, this time at Manaia, where the hall was, as usual, graced by attractive floral arrangements, and a large bench of specimens of shrubs and perennials was discussed by Mesdames W. J. Hosie and N. Yarrow. A talk on the planting, pruning and cultivating of roses was given by Mr H. Taylor, of Eltham, who answered many questions. Then came a display of coloured slides of the west and north coasts of Australia and the Mt. Cook region of New Zealand by Mr and Mrs R. Mann, of Otakeho. Many items of a horticultural flavour proved very interesting.

*JUNE* took the circuit meeting to Auroa, where Mr B. Hollard, of Kaponga, showed slides of many unusual plants to be found in his well-known garden, with comments on their history and care. Slides on the budding of roses and a step-by-step demonstration of growing them from seed with clear descriptions was a highlight provided by Mr D. Burton, of Kapuni.

While these winter activities occupied members at home, half-a-dozen

members from South Taranaki and some others from other parts of New Zealand had joined Mr R. D. Chamberlain, A.H.R.I.H., of Hawera, on the 'Rhododendron Tour' which took some 73 garden enthusiasts round the world on the strong wings of jet planes. For those fortunate enough (and extravagant enough!) to go, the most vivid horticultural flashes spice the memory of a fascinating holiday. Brilliant orchid gardens in Singapore; rubber trees in Johore; tropical jungle and water peanuts on the Klong in Bangkok, and lotus flowers in the ditch on the road to the airport there! The beneficent shade of trees in the scorching sun in the gardens of the Taj Mahal in Agra; the snow at Gulmarg in the Himalayas where expected rhododendrons had been destroyed by a late snowfall on 29th April; wild white and blue iris in the fields near Srinagar; the twisted gnarled black trunks of ancient olives on the hills outside Rome; the lovely trees of Switzerland, and the flowers! And then London-Chelsea with its flowers from everywhere; Kew, bright with tulips and dignified with trees; the Valley and Saville Gardens at Windsor; and then Wisley. Mr and Mrs F. P. Knight showed us their treasures and sent very kindly remembrances to all those they had met last year on their visit to New Zealand. (So, too, we hear did Mr Puddle. But those who went to India did not go to Scotland to see rhododendrons and then visit gardens in England and Wales.) The Knights leave Wisley in September, and are sad at the prospect.

The trees in English gardens were wonderful—on to Leonardslee, home of Sir Giles Loder; to Wakehurst Place, home of Sir Gerald Loder of Loder Cup fame and now functioning as a subsidiary of Kew; to Heaslands, home of Mr and Mrs Kleinwort where 20 acres of garden lead to 400 acres of woodland and azaleas and rhododendrons can grow in profusion to their hearts content; and to visit some of the other lovely gardens in south-east England.

We made many fascinating discoveries in Europe. In Copenhagen, arctic plants flourish in a series of cold houses where Greenland's temperatures are duplicated; in Helsingford the King of Sweden (we waited until he went to lunch and then his kindly head gardener showed us over the gardens of the summer palace at Sofiero) likes to help grow his own vegetables, and we passed his favourite rhododendrons on our way through the garden to dip our fingers in the Baltic. Mr Paulin grows his rhododendrons, and his roses, in ground frozen to a depth of five feet in winter; Count Knuth, of Knuthenborg Park, remembers with gratitude what he learned of fruit farming on his visits to New Zealand.

Bremen has masses of lovely rhododendrons and azaleas in a special park; blazing with colour, even on a wet day; and Mr Deitrich Hobbie, at Lieswege, grows myriads of tiny rhododendrons in nursery beds under the shade of tall Scotch pines. The flower festival at Vincennes was fascinating with flowers and fruits from everywhere—we loved the Japanese Tea Garden in Golden Gate Park in San Francisco; and the sequoias in Muir Woods were wonderful—as, by contrast was the tropical vegetation of Honolulu.

We did our best to bring the highlights back to share, and with *AUGUST* came a circuit meeting at Eltham in conjunction with the Taranaki (Central) Rose Society and the Eltham Horticultural Society. A gathering of some 250 saw this programme commence with highlights of this tour—a description of some of the beautiful homes and gardens visited in South-east England by Mr Chamberlain, of Hawera; slides of Kew, Wisley, Saville and Valley Gardens were shown by Mr T. A. Snowdon, of Inaha, who also included a few slides of typical views of India, Thailand, Kashmir and America.

As a contrast to gardens, architecture through the ages as shown in the different styles of churches and temples seen on this world trip through many different countries was commented on by Miss C. E. Free with colour slides and historical observations.

A well-laden bench of specimens was commented on by Mr B. Hollard, of Kaponga, who named *Protea longiflora* and *P. nerifolia*; *Rhododendron cornubia*, 'Red Admiral' and *R. barbatum manselli*; camellias; wattle; daffodils; *Cyclamen persicum* and *C. heapolitanum*; *Iris stylosa*, winter flowering ericas and many other varieties. Highlight of the evening was a demonstration of floral art by Mrs J. Young, of Oaonui, who showed in four lovely arrangements, what could be achieved by the use of native material. Using her own hand-made containers, in themselves charming examples of the potter's art, Mrs Young showed great skill in matching and contrasting colour and line of container and plant material. Leaves of rangiora and flax in a tall fawn jug; an abstract arrangement featuring twisted supplejack in a tall brown vase; flax, variegated coprosma, brown akeake and kiekie leaves and fruit in a copper bowl; rata, bullrushes, leaves, lichen and moss with driftwood, pottery ducks and feathery green astilbe to make a woodland scene—these were four very clever and charming arrangements which drew much applause.

A new service for Taranaki gardeners was inaugurated with the presentation by Mr H. Taylor, of the National Rose Society, of Rose Society Consultant Badges to three experts in the rose field—Mr D. S. Butcher, of Stratford; Mr D. R. Burton, of Kapuni; and Mr M. A. Legge, of Eltham. These badges, of red enamel, mark the Rose Society's recognition of the knowledge of these three experts; and rose growers will be able to draw on the knowledge of the badge wearers for assistance and advice with any problem. "Ring them up and ask them anything," said Mr Taylor amid applause.

Associated on the stage with Mr Legge, President of the Central Taranaki Rose Society, to welcome the visitors were Mr R. Syme, of Hawera, President of the Institute, and Mr B. D. Edwards, of Eltham, President of the Eltham Horticultural Society. Thanks to the speakers, demonstrator and those who had made arrangements for the meeting were expressed by Mr Butcher, Mrs N. V. Anderson and Mr Syme.

## WAIKATO

In New Zealand, where to so many people a tree is a challenge to be cut down, there is still a far too small, but devoted, band of sylviculturists whose efforts are directed to the preservation and extension of trees and tree planting. Mr S. W. Burstall, of Rotorua is one of these and at the August meeting members enjoyed a talk by him on historical and notable trees of New Zealand.

A threat to one of the sylvan attractions of the Waikato is developing in Cambridge, where rerouting of the State highway south will possibly mean that some of the mature and lovely trees in Te Koutu Park will have to be removed. The citizens of Cambridge have protested, and it is to their credit that the Borough Council has rejected this particular proposal. It is a sad fact that because the upgrading of the highway has become a necessity in a developed area such as Cambridge it is inevitable that wherever it is eventually routed the loss of good land and possibly trees must be faced. The trees in Te Koutu are mostly fine mature specimens and their loss would change irrevocably the quiet and dignity of that area of the town, so it is to be hoped that an alternative and equally suitable route can be found.

Another area has been in the news lately, this is the charming Fitzgerald Glade on the main Hamilton to Rotorua highway. Repairs and a further amount of sealing have become imperative, but we are informed by the Ministry of Works that there is no intention to alter the character of the Glade and that only very little tidying up on the verges will be done apart from the necessary sealing.

Nowadays those authorities responsible for providing roads are faced with many difficult problems in the upgrading of roads built in an era when to-day's volume of traffic was never envisaged.

We must have the roads and sometimes amenities such as trees must be removed, however much regretted. It is gratifying, therefore, to observe that many Government Departments and other authorities are becoming more active in both the preservation and further planting of areas temporarily despoiled by development. Perhaps we do not give enough credit to the efforts made in many cases, but this awakening sense of responsibility for the preservation of our countryside is one of the encouraging features of the past few years.

The establishment of the native plant nursery by the Department of Lands and Survey in Taupo and the replanting programme will do much to renew the beauty of areas scarred by development. When such enlightened efforts are being made it is all the more sad to learn that so much of this work is being nullified by the action of vandals who wantonly destroy and steal the trees and shrubs planted out. A perhaps happier event has recently taken place in Hamilton; after a prolonged period of controversy and many a wordy battle the Mayor, Mr M. J. Minogue, recently opened the gardens and fountains in Garden Place which have replaced the previous forest of parking meters.

Although no doubt there will still be critics it is difficult to see how anyone can do other than applaud the Hamilton City Council for the work they have done in bringing beauty to the centre of the city. At last Garden Place can be said to be truly named.

In September Miss Jean Robertson of Hamilton entertained members to a most interesting illustrated talk on New Zealand Flora and Fauna. Miss Robertson has visited many unusual places and her collection of slides showing plants, birds and animals depicted so well the great assets we have in this country in this respect.

The recently started plant and seed exchange service, suggested and operated by Mr K. Butler of Karapiro is enabling members to obtain rare and unusual plants, and is undoubtedly fulfilling a need of local horticulturists. One rule very firmly enforced is that only plants and seed unobtainable from seedsmen and nurserymen are handled. This means that seed and plants uneconomic for commercial growers to handle become more readily available to the advantage of our gardens.

## WHANGAREI

### July:

This meeting took the form of a Quiz Session. The panel consisted of Mrs M. M. Martin, Mr R. Waite, Whangarei City Council Parks Dept. Messrs O. Blumhardt, J. Finlay and Mr R. Waterhouse as a most able Quizmaster.

He opened the session with a few apt quotations—one from Mr J. A. McPherson "Grow plants according to your climate—it is useless to struggle with specimens unsuited to one's local conditions", and Mr Waterhouse's own advice "Be the boss in your garden. If a plant has ceased to please or has grown too large for its position, out it should go. A garden must be a pleasure not a burden."

Q: How does one propagate hardwood cuttings, including camellias.

A: For camellias, half-ripe wood is best, taken in January when leaves are full size and wood is firm but not dark. Trim foliage to 2 or 3 leaves and about 3in. wood. Dip cut end in Seradix 3, and insert cuttings in pots of scoria or river sand with equal part of peat, covered with plastic. Small leaved rhododendrons may be rooted in the same way. Grevilleas take better when

Seradix 2 is used. Hardwood camellia cuttings may be heeled in in May, in open ground.

Q: I have rooted cuttings in river sand in pots, indoors. How can I harden them off?

A: This takes time. A month after being certain they have rooted, uncover for  $\frac{1}{2}$  an hour out in the open, leaving a little longer each day until after a week they may be left out all day, but covered at night. When the weather is warmer, leave open all night.

Q: When and how do I propagate hybrid Clematis?

A: Take softwood tip cuttings when the plant is in full growth, cut to a node. Use very coarse sand, or fine scoria, and perlite in pot (vermiculite is too coarse).

Q: What is meant by the term "Microclimate"?

A: A garden will never be a success unless the owner realises the differences within the area, however small. In almost every section there are cold, wet places, the dry ones, the warm sheltered corners. In a sloping garden, the upper portion is likely to be drier and less cold than the lower. These different areas, then, must be planted with subjects known to thrive in them and each such area constitutes a microclimate.

Q: What kind of soil is used in seed-boxes?

A: It must be friable, sterile and well drained. A good mix is cow manure a year old, after being stacked 50-50 with good loam and a dusting of blood and bone, then half as much loam again when used in the boxes or pots. Also sawdust with  $\frac{1}{2}$  volume of fowl manure, also a year old. Peat and sand is a good mixture for pricked-out seedlings, when watered with a feeder such as Vitagrow. In California, which is regarded as the nursery of America, several hundred tons of good top soil were being lost each year around roots of plants, so scientists experimented with many mediums until a mixture of sand and peat, plus certain manures, was found to give best results.

#### Footnotes to Quiz Session:

**Lime:** A simple method of testing. When Sorrel (*Rumex Asetosells*) is present in quantity, it is a fair assumption that the soil is acid—that is lacking in lime. To make a more accurate estimate of its absence or presence the following is a simple method given in the R.H.S. Dictionary of Gardening. If a sample of the soil is stirred up with water (rain water), and the addition of a small quantity of hydrochloric acid (spirits of salt) to the mixture is followed by effervescence, the indication is that there is sufficient carbonate of lime for all ordinary crops, and too much for lime haters.

**Applying Lime:** The contact of lime with material containing salts of ammonia leads to the liberation of the latter into the air, and lime therefore should never be applied to land which has a dressing of ammonia-containing manures on the surface, or mixed with such before application. If farm-yard manures or garden compost are to be given, the lime dressing should be given a **month beforehand**. Lime dressings should be applied on the surface and allowed to work in, as they are soon washed down by rain.

**Lime Lovers:** All plants of the genus *Clematis* require lime and do not thrive well on acid soils. Many other plants can use or tolerate a certain amount of lime. These include many members of the Rose family—*Roseaceae* such as malus (crabapples), roses, photinias, prunus and pyrus. Other well known genera which need some lime are Maples (*Aser* spp.) *Berberis*, *Buddleia*, *Ceanothus*, *Cistus*, *Cornus* (dogwoods), *Deutzia*, *Forsythia*, *Fuchsia*, *Genista*, *Ilex* (Holly), *Juniperus*, *Olearia*, *Rhus*, *lilacs*, *Tamarix*, *Veronica* and *Viburnum*, *Wisteria* and *Yucca*.

**Lime Haters:** All rhododendrons, except *R. hirsutum*, *azaleas*, *camellia*, *gaultheria*, *Grevillea*, *Kalmia*, *Lithospermum prostratum*, *Nothofagus* and *Pieris*.

Among herbaceous plants *Lupinus* spp. rarely flourish on lime soils and many Australian and South African plants suffer if water containing much lime is used in their cultivation. Rainwater is safe.

#### Display Table:

There was an extremely wide range of plants on the table, *Alonsoa*, in its scarlet and pink forms, is most useful for providing good splashes of colour for several months. If on moderately good soil, given a little lime, each plant will reach 3ft and as much in width. It is decorative and picking prolongs blooming. It seeds itself readily and can be transplanted to fill in odd corners. The *Narcissus Earlicheer*, a natural hybrid, is one of the best in our climate, an early and profuse bloomer, apparently free from disease.

The Chinese forget-me-not, *Cynoglossum amabile*, although common, should not be despised, as its lovely blue spires liven up the garden all through the year, but especially in winter and spring.

Camellias were in abundance, with many kinds represented, from the oldest to the newest.

Camellia 'Tiny Princess' a hybrid between *C. fraterna* and *C. Japonica* lives up to its name and has an exquisite tiny flower delicately scented. This plant has been most successfully espaliered by a noted camellia grower in Kaikohe.

*Daphne Leucanthe* in profuse bloom and a fine spray of *Clianthus puniceus roseus* were shown, and drew much attention. *Azaleas*, *Rhododendrons*, *Erica*, *Hebes*, *Protea*, *Eucalypts*, *Banksia*, *Edgeworthia* and *Magnolias* added colour and interest to a splendid winter offering, but especial mention must go to some superb blooms of *Magnolia campbellii*.

#### August:

Though our programmes throughout the year have covered wide and interesting fields, it is justifiable to say that our speaker at this meeting, Mrs Janet Watkins, could have eclipsed them all. In breadth of interest, in specialised knowledge of the country, Sabah, its history, politics, topography, climate and commerce, plus considerable botanical knowledge of its flora, backed by the superb colour photography of her husband, gave us an evening packed with pleasure, as well as with profit.

Sabah has an area of twenty-nine and a half thousand miles, with a coastal plan along the west, a range of mountains rising to 13,000ft, inland swampy plains and jungle with long meandering rivers threading through mangroves. Rice, sago and rubber are principal crops. Bamboo furnishes building material as well as water pipes, and many of the plants have close relatives in our Northland.

The indigenous population which is a very small proportion of the whole is an itinerant one—burning jungle and cropping for about three years, and moving on when the soil is exhausted, to repeat the process.

Besides the production of crops such as rice, rubber and tobacco, timber has become the most important source of revenue. Sabah supplies a quarter of the world's hardwood, most of which goes to Japan.

The colour slides shown gave us a good idea of the topography of the country, its dense jungles, forest clad hills, high and very rugged mountain tops and the wide meandering rivers fringed with palms.

Of great interest was the Memorial Park, an area of 275 square miles and consisting of all land above 6,000ft set aside to honour the Australian,



British and other Commonwealth soldiers who died whilst prisoners of war, chiefly on a forced march through dense jungles from one coast to another. Of 4,000 men scarcely a dozen survived.

All were thrilled with the wonderful range of colour slides which Mrs Watkins showed, and not only showed but named, and gave specially interesting details of growth and habitat. In very many cases they have close relatives growing in our gardens. The forest trees especially have their counterparts here, also the ferns and many perennials.

Among forest and timber trees were trees akin to Matai, Miro, Kauri and ferns like the Umbrella fern (*Gleishenia* species), King Fern (*Marattia*), Lycopodiums and the giant club moss *Dawsonia superba*.

Of special interest was the plant *Rafflesia bornieum* which bears flowers of the largest size in the world, from nine inches up to three feet across.

Plants common in the jungle were species of Balsam and Begonia with many relatives of *Tibouchina* (*Lasiandra*) and *Heteroantron*, both well known plants in our gardens. Pitcher plants of giant size had the same digesting ability as our Sundews, and could hold the astonishing amount of two gallons. A very large white violet was a rather unexpected sight in such tropical surroundings, and the brilliant colours of the Rhododendrons on Mt. Kata-Kinabalu were a delight to the gardener's eye. These and many others akin to plants grown in our Northland gardens made us wonder how many might be successfully established here.

#### Display Table:

Judging from the specimens on display, Spring is well advanced and, indeed, shows signs of merging into Summer. Prunus, Magnolia and Camellias provided a feast of colour.

*Prunus 'Wrightii'* evolved by the late Hayward Wright from plum, peach and almond parentage, is a splendid plant with large double brilliant pink flowers in profusion and is a fine contrast to *Prunus nigra*, *P. moseri* and *P. bleiriana*. The newer American dwarf peach was also there and provides edible fruit as well as the showy flowers. It also comes true from seed.

The yellow spires of the South African herbaceous plant *Bulbinella* are a gay note in the garden now. Another African, the low-growing shrubby *Selago* has masses of mauve flowers. This belongs to the Snapdragon family, and is a good plant for poor sunny, dry soils and needs cutting back after flowering. *Daphne genkwa* from China is always striking with violet flowers in bare stems. It does not like to be too much shaded and dislikes lime. *Rondletia amoena* from Mexico is a splendid shrub for a warm position and produces masses of apricot pink flowers with a delicious perfume.

Two Hellebores from Mrs Reynolds' garden were most attractive especially the green nodding blossoms of *H. corsicus*. The pink forms of *Magnolia stellata* is said to be a better grower than its white sister which does so well in Northland. Among the camellias 'Tiffany' and 'Pink Champagne' showed to advantage, also 'Mark Allen' and 'Spring Sonnet', 'Professor Tsai' and 'Pagoda' were two of the most outstanding of reticulatas.

There were also some especially fine anemones from the garden of Mrs McMillan.

#### September:

A departure from the usual lecture was provided by Mr R. Waite of the City Parks and Reserves Department. Mr Waite reviewed for us some of the work done and outlined other works envisaged in the multiplicity of areas which come under the supervision of the Parks Department.

**Display Table:**

A number of unusual exhibits gave special interest to our September Table.

A pot grown plant of one of our native Ratas in full bloom, though only about 6 inches high, caused some speculation as it was only 2 years old from the planting of the cutting. It was explained that the plant, grown by Mrs Reynolds, was taken from mature (i.e. flowering) wood. From seed it would take four years to reach flowering stage. It keeps its adult form when cutting grown, but remains juvenile in leaf and habit from seed, and will readily cling to rock or wood and climb quite high and provide a beautiful spectacle when it produces its carmine flowers. Technical name *Metrosideros Carminea*.

Two pots of primroses—as distinct from polyanthus—grown from seed by Bruce Christie were remarkable in that one pot produced cream flowers and in the other from the same seed half were cream and the other half yellow. In both the abundance of bloom was astonishing.

An unusually fine head of *Viburnum calcepalum* was from the garden of Mr Finley. This is a cross between *V. carlesii* and *V. macrocephalum*, with the scent of the former and the size of the latter.

*Forsythia* 'Beatrix Farrand' is undoubtedly the best of its family and is successful in a variety of soils and conditions. *Loropetalum chinense* seldom seen, is an unusual shrub from China, often called the Fringe tree from its narrow petalled flowers.

From Japan comes *Prunus nipponica*, a free flowering bushy tree, with good autumn colour. Also shown by Mr Blumhardt, were several interesting Rhododendrons, in particular one from New Guinea, which grows readily from cuttings, a great advantage in propagation.



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