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SEASONAL GREETINGS

ONCE AGAIN it is my most pleasant duty to extend to members the Season's Greetings.

It has indeed been a most notable year in New Zealand's relatively short horticultural history. There have been many horticultural overseas tours and visits both to and from our fair land culminating in the First World Rose Convention in Hamilton. This horticultural high point drew three hundred overseas delegates most of whom made extended visits taking in other centres, gardens and other horticultural attractions. We are all the richer for this and the good fellowship displayed and the resultant friendships afford grounds for hope that in the not too distant future the "Goodwill to all Men" envisaged by Our Saviour may become a living reality.

Good fellowship and goodwill do not flourish in stony ground, where want, starvation, ignorance, prejudice and suspicion prevail. A starving man does not appreciate the beauty of a rose nor any other flower. Materially horticulture has a great part to play in a better world by providing grain, fruit and vegetables for all mankind and only then will Man be able to appreciate to the full the beauty around him.

What does the future hold for us? Sam McGredy speaking recently said of the projected plant patents legislation. "I am interested for selfish reasons, but New Zealand should act in this matter in her national interest.

"You have here perfect conditions for breeding plants. You probably have grasses and barleys which merit protection.

"Establish the protection on which the economics of firms like mine depend and you will attract to New Zealand the big names in international plant breeding."

There is much food for thought here for this is but one example of how we may help in producing a better world, materially and spiritually.

J. F. LIVING, *Dominion President.*

Editorial:**A NATIONAL TRUST**

"THE ROSE ANNUAL, 1971", an official publication of the Royal National Rose Society, features, facing page 112, a colour photograph of a most attractive red rose from the famous Portadown nursery and hybridising station of Sam McGredy IV. This rose was awarded a R.N.R.S. Trial Ground Certificate in 1970 which means it is a good rose for gardens in Britain and is named 'National Trust'. Page 112 carries the heading "ROSES IN THE GARDENS OF THE NATIONAL TRUST (2)" (The first part was in the 1970 Annual) and we may take these as tributes to the esteem in which the National Trust is held by the horticulturally minded in Britain. The article is by Graham Thomas, a noted horticultural author, rosarian and authority on old roses, nurseryman and Garden Adviser to the National Trust.

Though a recent development we may say that The National Trust is very much a part of the British way of life, an accepted institution, and we could well do with a similar establishment in New Zealand. Perhaps its most valued activity as far as the garden minded are concerned is the taking over of many of the great gardens of Great Britain and preserving them for posterity. Though we may not have an as extensive problem as Britain where the tax gatherer's maw threatens the very existence of numerous notable gardens, many of which are part of Britain's age long history, we do have a problem. The preservation of Eastwoodhill still concerns this Institute deeply and at the moment it appears no closer to solution.

This is not to say that the existence of a National Trust of N.Z. would automatically solve such problems but it would at least define the responsibility. There would still be problems relating to finance for in New Zealand organisations of this type are not supported by our Government no matter what political colour, as well as they might be. This is probably a fact of life in Britain too. At the same time the time is probably ripe for the establishment of such a body for our population is becoming intensely environment conscious and conservation is a popular catch cry. There is little doubt that in future there will be more "Eastwoodhills" and the establishment of such a body would ensure that at least some are preserved. In Christchurch Mona Vale has been saved but the next similar property to come on the market could well fall into the remorseless hands of the sub-divider.

Britain's National Trust's functions and activities certainly cover a far wider field than the preservation of notable gardens and our Historic Places Trust would have a similar purpose over a rather limited field. However in the interests of all and particularly posterity the whole matter should be looked at more closely.

JOHN GOVER.

NEWS FROM DOMINION COUNCIL

Conservation Environmental Conference: Mr R. Syme continues to provide liaison with this organisation which is still in the process of formation. Formal affiliation by the several organisations was not proposed but rather would it comprise co-operative membership in a rather loosely united manner providing a framework for immediate action on matters of national importance arising in the future.

Technical Correspondence Institute: The Director of Technical Education advised that tuition beyond the first year could not be provided for the two National Diplomas in Horticulture (Fruit and Vegetable) as insufficient candidates were offering to meet the minimum enrolment of twenty required. Further action was left to the Examining Board.

Extracts from Sub-Committee Reports: Nomenclature. Raisers and introducers of plants were being guided in the naming of cultivars of additional native plants such as *Coprosma* and *Lophomyrtus*. A selection of *Leptospermum* is to be established at the Otari Native Plant Museum, Wellington.

Plant Selectors' Rights: The Institute has been invited to express its views on the matter and the Sub-committee will communicate its opinions directly to the Under Secretary to the Minister of Agriculture.

Twelfth N.Z. Science Congress: Palmerston North; 31st January to 4th February, 1972. Write to Dr J. T. Brown, Dept. of Microbiology, Massey University, Palmerston North, for more information.

Fellowships: The following nominations from the Waikato District Council were approved: Mrs P. R. Wilson, Messrs G. D. Fisher, W. E. Watkins, H. G. Whyte, K. D. Farmer and P. R. Wilson.

Honorary Life Membership: Mrs E. M. Sands, Whangarei.

1972 Dominion Conference: It was decided to change the venue and date, to Palmerston North, 11th March, with social outings on Sunday, 12th March. The Banks Lecture would be held on the evening of the 11th March but the subject and speaker had yet to be determined.

Retirement of M. A. M. W. Greig, Director of Horticulture: Good wishes were expressed to Mr Greig on his retirement from the above position and appreciation was expressed to him for his valuable services to the Institute.

Wellington Horticulture Society: The merger of the membership of the former Wellington Horticultural Society with the Wellington District Council had been confirmed at a meeting of the former organisation. Life members of the horticultural society were elected life members of the Institute plus Mrs O. D. Du Pont who had given long and devoted service to the Society.

LODER CUP AWARD 1971

The Loder Cup Award for 1971 has been made to Mrs Violet Briffault, of Whakatane. This Award is offered 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.

The competition is now in its 42nd year, the first Award being made in 1929.

A New Zealander by birth, and born at a time when the Rangitaiki area was far more covered with native bush than it is now, Mrs Briffault has grown up with a love of her heritage: it is this great love of the national flora and fauna that has proved the driving force in all her undertakings for the preservation of native trees and birds, a legacy to be bequeathed for the generations yet to come.

During the past twenty years Mrs Briffault has devoted herself, quite selflessly, to the cause of native trees and indigenous plants in general, and their establishment in public and private gardens in Whakatane and surrounding district. This has resulted in planting, or being responsible for the planting, of thousands of native trees with particular attention being paid to berry—and nectar-bearing types.

She has stimulated interest in preserving the Urewera National Park in an unspoiled state; visited schools and colleges to teach the students all about our native flora; personally conducted children's nature groups and camps, and has taken a leading part in preserving areas of remaining native bush in the Bay of Plenty district.

Perhaps the best example of her single-minded devotion to the cause of preservation was clearly demonstrated when in 1959 she organised a Dominion-wide petition concerning the protection of head-water and high mountain forests, and personally led the team that presented the petition to Parliament.

MINISTER OF AGRICULTURE PRESENTS LODER CUP

Before a crowded meeting that included everyone of note in conservation circles and numerous local personalities, the Minister of Agriculture, Mr Carter, presented the Loder Cup to Mrs V. A. Briffault at a special function in Whakatane last October.

Many supporting speakers also spoke in praise of the recipient's enthusiasm, dedication and persistence when advocating her cause, the preservation of our native flora. Not only was she a determined advocate but was practical too as in pulling ragwort in Urewera National Park with her own hands. Speakers included Mr



Mrs V. A. Briffault.

Photograph—Whakatane Beacon.

A. E. Turley, Commissioner of Crown Lands for South Auckland and Chairman of the Urewera National Park; Mr T. Morpeth, Mayor of Whakatane; Mr R. C. Nelson, National President of the Royal Forest and Bird Protection Society who said "I have attended many Loder Cup presentations and there had been some great people among the recipients but none more worthy than Mrs Briffault"; Mr A. M. W. Greig, Chairman of the Loder Cup Committee, and finally the Minister.

In thanking the gathering and all concerned in the Award, Mrs Briffault referred briefly to The Forest and Bird Society. "I am going to make a plea to all my well wishers and friends who are not yet members. We have a big job to do . . . we have a tremendous job to do and we need more members."

Perhaps the greatest compliment of all was a telegram signed in the name of Tane Mahuta, the giant kauri of Waipoua State Forest, "Well done most faithful friend. My children rise to honour you."

NOTABLE R.N.Z.I.H. EXHIBIT AT ROSE WORLD '71

By E. TOLEMAN, Hamilton

When the Institute's exhibit at the World Rose Convention Show in Hamilton was first discussed two years ago it was agreed that it should be not only decorative but also useful. It was finally decided that it should be in two separate parts. One was to show how a small garden could be made to suit conditions now frequently found in towns, and the other a display of plants which can be grown in New Zealand.

The layout of the Claudelands Showgrounds Main Hall lends itself to such an arrangement. Facing into the main hall the garden occupied a space of approximately 40 feet by 25 feet. One side was the wall of the hall and on the other three a sense of privacy was achieved by wooden fences. The aim of the designers was to show a New Zealand garden, and not a copy of any overseas styles. All materials, both plants and constructional, are readily obtainable and reasonably priced. The greater part of the area was covered with paving slabs of different sizes and arranged in areas of contrasting colours. A pool with a small statue and fountain planted with aquatic Iris and Nymphaeas was a focal point. Specimen trees, in this case Maples, in island beds gave shade and colour. A border for shrubs, and small



R.N.Z.I.H. Garden Exhibit.



R.N.Z.I.H. Plant Display—frontal view.

Photograph—Waikato District Council

trees, with ground cover was against the back wall, which in a permanent garden would be the house.

The paving along the border was so arranged that the line was not straight, and an urn added much interest to it. A garden seat was placed so that the whole garden could be viewed from it. This soon became very popular with visitors who were finding walking around the show could be tiring.

Part of the aim was minimum maintenance and so no grass was used, but where this is preferred it could readily be included. Using the paving slabs makes this an all-seasons garden, and when suitably sited in winter it would be warm and sheltered. So long as their size, form and colour fit in with the general design any plants could be used. In this particular garden attention was paid to colour and form, whether flower, foliage or constructional material.

One outstanding specimen plant was *Rhododendron yakusimanum*, almost completely covered with flowers which are bright pink in bud, pink when open and finally fading to white. This plant will ultimately become about three feet high and four feet across and so is ideal for a small garden such as this. Bamboos were used partly for their height but also for their foliage. A mass of *Hosta sieboldiana* blended with other plants to create a pleasing contrast. For ground cover under Maples the deep bronze purple foliage and blue flowers of *Ajuga pyramidalis* were ideal. Some specimen plants of *Lewisia* hybrids, not easy to grow in the Waikato, attracted much attention. Various small conifers were used to provide colour and form, and the designers aim of peace and restfulness was achieved by this skilful blending of plants and use of materials.

The second part of the exhibit was basically designed so that a large number of plants could be displayed for all to see. The area was about fifty feet long and the width varied from ten to fifteen feet. On the concrete back wall, part of the building, were three large pictures depicting New Zealand scenes and around them plants and foliage at various levels. The outline from the front was irregular and a central projection brought some taller plants to the front. The frontal effect was striking, partly from the size of the exhibit and the great amount of colour. Over the six days of the Show many plants and flowers were renewed or replaced. All were labelled and in some cases a fuller description of the plant was given. Split pongas were used to provide bays and to cover the necessary strong staging on which the exhibit was displayed.

During the course of the Show many hundreds of plants were on view including both natives and exotics. People and organisations from all over New Zealand sent plants, flowers, seeds, cones and fruit and it was partly due to this generous response that it was possible to stage such a diversity.

It would be impossible to list every plant but all were grown in New Zealand and the range was truly impressive. Perhaps it is only when an exhibit such as this is done that we can really appreciate how many plants we do have in our gardens.

A collection of plants of all the native New Zealand Conifers together with a large collection of cones both from natives and exotics, attracted a lot of interest. Between those of *Picea mariana*, about an inch and a half long, to those of *Pinus wallichiana* ten inches long, were cones of every size and shape.

Native plants from alpine and higher altitude areas formed an exhibit probably seldom seen before by most people. Over a hundred and fifty such plants showed how great a wealth we have in our native flora, a fact as yet appreciated by only relatively few people.

From the South Island specimen plants and photos of *Raoulia spp.*, the Vegetable Sheep, showed these amazing plants to many people for the first time. Orchids, including both species and some of the best modern cultivars were well displayed on the higher levels so that those with arching sprays were at eye level. Carnations and Gerberas showed the very lovely cultivars now in cultivation here. Some overseas visitors were greatly impressed with the size and colours of the Gerberas which they had not realised existed. Tulips from the South Island in a great range of colours added an arresting display of colour on the days they were used.

From many sources came flowers to give an extensive display of Proteaceae. Perhaps not the easiest of plants to grow they are without



R.N.Z.I.H. Plant Display—a closer view.

doubt one of the more spectacular of our garden plants. Cactus and Succulents, including many rare specimens were loaned by specialist growers and as is usual with these plants were a centre of attraction. Rhododendrons were in flower later than usual this year and this enabled many to be shown, including several new cultivars. Individual plants of outstanding interest were many, some were rare or seldom seen in gardens. *Puya pyramidalis*, with lime green flowers is seldom seen, but will undoubtedly become much more grown when available. The rare and intriguing Mexican Hand Plant, *Cheirostromon platanoides* was a centre of interest. *Doryanthes palmeri* with its large flower head is another plant too seldom seen. Specimens of Pua-o-te-Reinga, *Dactylanthus taylori*, intrigued overseas visitors and not a few New Zealanders who did not know it is found in our forests. A collection of flowers of Clematis cultivars showed how little use we make in our gardens of these lovely climbers.

The plants mentioned cover only some of those on display during the Show.

The series of Shows held during the World Rose Convention were very well attended, and at most times the Institute's exhibit was perhaps too crowded for comfort. But this state of affairs was gratifying to those responsible for its design, erection and maintenance, and the reputation of the Institute should be enhanced because of their efforts.

The list of those who so generously sent plants and material to the Waikato District Council is far too long for individual mention, but they are all thanked most sincerely. To those responsible for the great amount of work which went into the exhibit goes the grateful thanks of all those who had the pleasure of visiting the Show. The Institute can be assured that they were well represented in helping to make the World Rose Convention in Hamilton the success it undoubtedly was.

(The Waikato District Council is to be congratulated on this magnificent exhibit which surely has seldom if ever been equalled in the Southern Hemisphere.—Ed.)



1972 ANNUAL DOMINION CONFERENCE
of the
ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)
49TH ANNUAL GENERAL MEETING AND CONFERENCE
OF DELEGATES

Notice is hereby given that the 49th Annual Meeting and Conference of Delegates of the Royal New Zealand Institute of Horticulture (Inc.) will be held in the Concert Chamber, Palmerston North, on Saturday, 11th March, 1972, commencing at 10 a.m. The Annual Banks Commemorative Lecture will be delivered at 8 p.m., same date and venue, by Dr B. J. Forde, Dept. of Plant Physiology, D.S.I.R., Palmerston North, on "Predicting the Growth of Plants."

Registration of Attendance together with **Registration Fee of \$6.00** per person, must be lodged with Mrs B. Smith, Box 1395, Palmerston North, by 18th February, 1972. The fee covers refreshments etc. plus the cost of the All-day Tour on Sunday, 12th February, 1972.

All Members of the Institute and delegates from affiliated bodies are especially invited to attend.

K. J. LEMMON,
 Dominion Secretary.

**PALMERSTON NORTH
DOMINION CONFERENCE VENUE, 1972**

THE RAPIDLY GROWING CITY OF PALMERSTON NORTH should prove a most popular venue for our next Dominion Conference for it is readily accessible by air, rail and road from Kaitaia in the North to Bluff in the South. Accommodation for our delegates should be ample but it is advisable to book early for this city is a very popular centre for conventions and other gatherings.

With a population rapidly approaching 60,000 it has many similarities to its sister city, Hamilton. Like the latter it is situated on a fertile plain, is an important Main Trunk junction, is located on one of the North Island's major rivers, the citizens and local authorities are horticulturally minded, and it is the centre of some of New Zealand's most important horticultural and agricultural institutions.

Also it has one outstanding feature that must be the envy of every other city and town of importance in New Zealand, that magnificent square. Even in the days when the Main Trunk Railway passed through the middle of The Square and the nearby railway station spewed smoke and grime The Square was a noted feature and attraction for visitor and citizen alike. Now that the railway has departed from the centre of the City many improvements have been effected to make this probably the most attractive city hub in New Zealand. Also 1971 has been a most important year in the history of this City for it is Palmerston North's Centennial Year.

Of course the city's horticultural attractions are not confined to The Square for there are many attractive public parks, etc., and we shall only draw your attention to the famed Esplanade within walking distance of the Square and close to the Fitzherbert Bridge over the Manawatu River. Here amid pleasant surroundings there is something for everyone and every gardener will find much to interest him. For instance those with an interest in roses will find the Dugald McKenzie Memorial Rose Garden laid out in the form of a huge wheel with a hub formed by a large pond and unusual fountain. From the gates to the fountain one walks beneath a lengthy pergola adorned with modern pillar roses. In a distant corner may be found the N.R.S.N.Z. Rose Trial Grounds where new introductions are tested before being released to the New Zealand gardening public.

Across the Fitzherbert Bridge turn to the right and there you find the attractive environs of Massey University with its Chair of Horticulture. Palmerston North is a noted nursery centre and many nurseries are situated here and in the surrounding district, some of them being nationally known. Perhaps plant wise the city is best known for the lilliums raised locally for Dr John Yeates has his home and hybridising station here. Not only does he cross lilies but he is also hybrid-

ising azaleas. Not all the horticultural attractions are centred in the city; for instance the Rhododendron Trial Grounds may be found at Kimbolton, nearly thirty miles away at an altitude of two thousand feet.

It would be impossible to enumerate all Palmerston North's many attractions for the garden minded and nature lover in a short article and the above is just a sample of what those attending the Dominion Conference may expect to see in this expanding metropolis. Far from least will be the many attractive private gardens and homes in which this garden-minded city abounds.

Speaking and voting at the Dominion Conference is limited to the officially appointed delegates and to those who vote in their own right but other members of the Institute are welcome to attend as observers, to attend the Banks Lecture and any other addresses. For those wives, husbands and friends who eschew formal occasions and business Palmerston North is regarded as an outstanding shopping centre. So to those who have spouses, etc., attending the Dominion Conference we say come along too; your time will be well spent but REMEMBER, BOOK YOUR ACCOMMODATION EARLY.

NEW ZEALAND INTERNATIONAL ROSE TRIAL AWARDS 1971

'Gold Star of the South Pacific' and Certificate of Merit: 70/198 'OLYMPIC TORCH,' H.T., Keisei Nurseries, Japan (Bell Roses).

'Gold Star of the South Pacific' and C.M.: 70/134 'ELKA GAAR-LANDT,' Fl., Buisman, Holland (Bell Roses).

'Most Fragrant Rose' and C.M.: 70/188 'COURVOISIER,' Fl., McGredy, N. Ireland (Avenue Nurseries).

'Silver Star of the City of Palmerston North' and C.M.: 70/121 '601,' Fl., Sherwood, New Zealand (for N.Z. raised seedling).

Certificate of Merit: 69/090 CLIMBING 'SARABANDE,' Clg. Fl., Meilland, France (Duncan & Davies); 70/125 'ESPERANZA,' Fl., Delforge, Belgium; 70/136 'VINCENT VAN GOGH,' Fl., Buisman, Holland (Bell Roses); 70/137 'NORRIS PRATT,' Fl., Buisman, Holland (Bell Roses); 70/138 'LIJMBANROOS,' Fl., Buisman, Holland (Bell Roses); 70/166 'LIVELY LADY,' Fl., Cocker, Scotland, U.K. (F. Mason & Son); 70/168 'CRIMSON DAWN,' Fl., Ellick, England, U.K.; 70/176 'G.D.R. 30761,' Fl., de Ruiters, Holland; 70/204 'BRIDAL WHITE,' Fl., Jackson & Perkins, U.S.A. (Bell Roses); 70/240 '44-63-7,' Min., Moore, U.S.A. (Bell Roses).

H.T. = Hybrid Tea, Fl. = Floribunda, Clg. = Climbing, Min. = Miniature. Names in brackets are the names of the New Zealand Agents who have submitted the roses for trial on behalf of the raisers.

CAMELLIAS

Awards of Garden Merit

(By kind permission of their Editor, we reprint for the benefit of our members the Awards of Garden Merit made by the New Zealand Camellia Society for 1971).

There are now many hundreds of camellia varieties available in New Zealand and more appear in nursery lists every year. Inside the Camellia Society there is plenty of information circulating about them and members have the advantage of discussion, visits to well-known camellia gardens and attendance at branch meetings where the comparative merits of different camellias are frequently discussed.

The general gardening public, which plants hundreds of thousands of camellias every year, has no guidance available at all about how to choose between the bewildering lists of names in catalogues. Fortunately there are very few bad camellia varieties but there are some which are a lot better than others!

At its last meeting the Council decided to set up a scheme for giving awards of garden merit to camellias and appointed a committee to deal with it. The first list is published below and further names will be added, probably annually.

Awards have been considered and made for *C. reticulata*, *C. japonica*, *C. sasanqua* and camellia hybrids. Each of these groups has a very definite place in gardens but owing to differences in character and flowering period they have been dealt with separately.

In making the awards no undue emphasis has been placed on the size or dramatic appearance of flowers and varieties have not been selected on their show bench performance, though many will have done well there. The requirements were that they should be:

- (1) Good garden plants when grown under average conditions.
- (2) That they should flower freely and reliably and not be subject to undue weather damage.
- (3) That they should be sufficiently well distributed to enable reports to be obtained over a wide geographical area.
- (4) That they should be reasonably easy to obtain.

The Awards Committee asked fifty of the leading camellia growers and the Society's branches to make nominations under the four group headings. The nominations came from the far North down to and including the South Island and the geographical distribution was, therefore, very extensive. On many varieties there was remarkable unanimity. Many very new varieties were nominated, some of which will, doubtless, appear in later lists when they can satisfy the requirements of wide distribution.

Because they flower in the winter, all camellias will do better if protected from the morning sun and the larger flowered varieties can benefit from protection against strong winds. Varieties with white or pale pink flowers need sheltered positions. In areas subject to extreme frosts some overhead protection is advisable.

Camellia reticulata

This species of camellia grows freely and makes magnificent displays of colour. They are propagated by grafting and it is essential that the root stocks should be strong and the plants clean and vigorous when obtained. If this is ensured they are as easy to grow as any other camellia.

Awards of garden merit (G.M.) are given to the following:

BUDDHA	SUNGTZELIN (PAGODA)
CONFUCIUS	TZEPAO (PURPLE GOWN)
CAPTAIN RAWES	TATAOHUNG (CRIMSON ROBE)
WILLIAM HERTRICH	

Camellia japonica

GUILIO NUCCIO	LADY CLARE
TIFFANY	DIXIE KNIGHT
MOSHIO (FLAME)	K. SAWADA
R. L. WHEELER	BERENICE BODDY
BOKUHAN (TINSIE)	GUEST OF HONOUR
DR. TINSLEY	CORONATION
LAURIE BRAY	CARTER'S SUNBURST
GRAND SULTAN	ONETIA HOLLAND

Camellia sasanqua

These are the hardiest and most wind resistant camellias which flower in the autumn in great profusion. They do well everywhere, except, perhaps, in districts subject to frequent and severe early frost.

PLANTATION PINK	BETTIE PATRICIA
SHOWA-NO-SAKAE	SPARKLING BURGUNDY
CRIMSON KING	MINE-NO-YUKI (MOONLIGHT)
EXQUISITE	

Camellia Hybrids

DONATION	LEONARD MESSEL
E. G. WATERHOUSE	WATER LILY
BARBARA CLARK	DEBBIE
PHYL DOAK	ELSIE JURY
ELEGANT BEAUTY	FAIR LASS

ALONG THE AVON (continued)



**The
Woodland
Area,
Hagley
Park**

*Block by
courtesy
Canterbury
Horticultural
Society.*

The Woodland area is overlooked by the Christchurch Hospital and the Nurses' Home and provides pleasant routes for the wheelchairs of convalescing patients. Visitors will find the easiest access from Riccarton Avenue, the gates being about one hundred yards past the Nurses' Home coming from town. Almost directly opposite is the Hagley Park Oval, the home of cricket in Christchurch, and the oak girt oval, reminiscent of some county grounds, is guaranteed to bring nostalgic feelings to many folk from Britain.

At the Antigua Street footbridge we find the boatsheds where canoes and punts may be hired to travel up the river past the Botanic Gardens. The area within the angle formed by the Avon and Rolleston Avenue may be termed a cultural and educational precinct and the proposal to link Rolleston Avenue and Antigua Street by a traffic bridge evoked such opposition that it was speedily dropped. Within this area are Christ's College, Canterbury Museum, the University of Canterbury town campus, Y.M.C.A., Canterbury Library, Horticultural Building and Church House, Provincial Chambers, Law Courts, Canterbury Club, two art galleries, W.E.A., Girls' High School, St. Margaret's College, churches, lodges and a host of administrative and professional buildings. Many have their own plantings but all benefit from their proximity to the Avon.

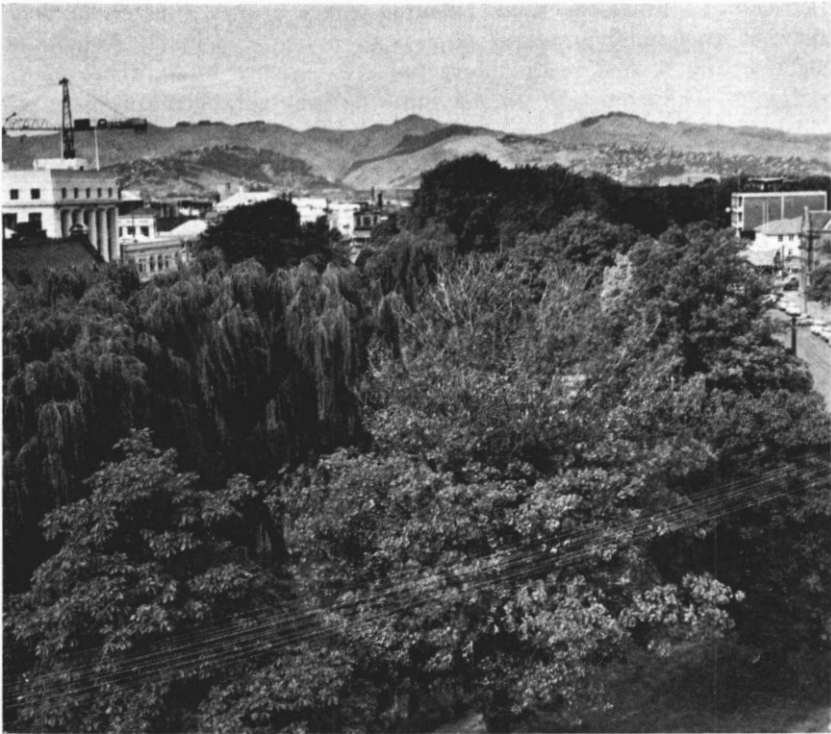
The Avon known to the visitor and tourist begins at the Antigua Street footbridge and from here the treatment is more formal, the close-cut sward and the grassy banks with their shade trees and shrubs providing a popular lunch hour rendezvous for downtown shop and office staffs. Fortunately rainy days are rare in Christchurch. Favoured

plantings in this area are oaks, horse chestnuts, willows, silver birches, copper beech, prunus, plane trees but there is also good use made of smaller trees and shrubs. There are two islands in this reach. One opposite St. Michael's Church, the first church on the Plains opened in 1851, approximately six months after the arrival of the First Four Ships, includes mahonia, rhododendrons, hebes, prunus, cabbage trees, aralia, camellias, kniphofia, senecio, *Magnolia grandiflora*, and the one just north of the Hereford Street bridge is often a spectacular sight with its azaleas, callistemons, flowering cherries, golden privet, cabbage trees, fuchsias, phormium and other plants, whilst the banks opposite carry *Cotoneaster horizontalis*, pyracantha, buddleia, grevillea among other things. Delightful vistas are obtained in this area, especially from the upper floors of buildings such as Church House.

At Cashel Street we must admire the Bridge of Remembrance, Memorial to the dead of two World Wars. Many from all parts of New Zealand marched over the Avon here as they began their last journey. The bridge is too narrow for modern traffic conditions and future plans include turning the part of Cashel Street immediately east of Oxford Terrace into a pedestrian mall and the construction of an additional bridge on a different line as part of the one-way street complex.

The Wahine storm, 10th April, 1968, felled some of the older willows and other trees and improved the vistas at ground level. The Avon would be at its closest to Cathedral Square at the Worcester Street bridge being a mere one hundred yards and the Cathedral itself two hundred yards. On the Cambridge Terrace bank opposite the venerable buildings of the Canterbury Club a fine specimen Golden Ash, *Fraxinus excelsior aurea*, flaunts its beauty whilst almost opposite the Canterbury Horticultural Society's fine building there is a small *Ginkgo biloba*, a small plaque stating that it was planted by Miss R. Medlicott, Dominion President of the New Zealand Federation of the Country Girls' Clubs on the occasion of its twenty-first Annual General Meeting, 10.6.69. A charming red brick building by this bridge belongs to the Canterbury Chamber of Commerce and was the old City Council Offices. A most attractive stretch is where the river glides past the Old Provincial Chambers and the Law Courts. A curiosity here is a cobblestone drive providing access to the water. The foundation stone of the new Law Court Buildings was laid in the late thirties but war intervened and only now is it proposed to commence construction. It is hoped that the new structures will harmonise as well with their surroundings as the old but propped-up structures that have served Christchurch and Canterbury so well.

By the floral clock at the Victoria Street bridge the Avon swings



The Avon from above the Canterbury Horticultural Building—an unusual view.

in a broad curve in front of the Christchurch Town Hall rising into the skyline and rapidly approaching completion on the old Limes site. Few civic or other buildings in New Zealand have a site in any way comparable with this. On the north of Victoria Square the area is attractively treed but when the building is complete several trees may need to be removed to provide the vistas needed. No doubt there will be objections for there seem to be mainly two types of people when it comes to trees; those who would cut down every tree in sight and those who regard all trees as sacred and not to be touched. Surely if trees are to serve man to the fullest aesthetically we must draw the line somewhere between these two attitudes. This building, well past its half-way stage, is already most imposing and will be a priceless asset dominating Victoria Square with a quiet dignity.

The curve of the river continues under the Colombo Street bridge to an area of wide open lawn in the vicinity of the Edmond Band Rotunda. Trees are not numerous here but as if to make up for this

between the Manchester and Madras Street bridges, the Avon flows between two stately rows of poplars of immense height. A majestic sight at any time it is an unforgettable experience to see them in the autumn. They must be among the most photographed trees in New Zealand.

The stretch between the Madras Street and Barbadoes Street bridge is of great historical significance for this was the limit of navigation in early Christchurch and this is the site of the Bricks landing and it is also the tidal limit. From the Antigua Street bridge to Barbadoes Street access to either side of the stream is easy for on, or near, the left bank runs Cambridge Terrace and on the right bank is Oxford Terrace. This continues for several miles though they are called River Road and Avonside Drive from Fitzgerald Avenue. From Barbadoes Street the Avon makes another large U turn passing the historic Barbadoes Street Cemetery to cross to Fitzgerald Avenue and run parallel to that as far as the Fitzgerald Street bridge. The treatment is now more informal but nonetheless pleasant, except for the stretch parallel to Fitzgerald Avenue. From Barbadoes Street large weeping willows predominate, but there are sprinklings of other mature trees such as *Ginkgo biloba*, the maidenhair tree, oaks and rowans, flowering cherries whilst there are many new plantings.

The area by the Fitzgerald Avenue twin bridges used to be the headquarters of local rowing clubs but they have moved further down the river to Kerrs Reach. Reconstruction has left a bare concrete wall where the Avon parallels the Avenue. No doubt this was necessary protective work but the treatment aesthetically is poor in the extreme and it is hoped that effective measures can be taken to make it more attractive.

Otherwise Fitzgerald Avenue is still most attractive with its tall oaks, birches and planes but the treatment of Moorhouse Avenue does beget misgivings about what may happen here.

(To be continued)



LODER CUP COMPETITION

NOMINATIONS for this coveted Award for 1972 will close with the Secretary of the Loder Cup Committee, P.O. Box 450, Wellington, on June 30th. The conditions of the Award may be obtained from the Secretary.

The Award is made to encourage the protection and the 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.

ROADSIDE PLANTS IN NORTHLAND

by MARGARET M. MARTIN, A.H.R.I.H. (N.Z.), Whangarei

All over New Zealand our highways and byways are clothed in varying types of vegetation, much of it indigenous, but some of it introduced. Species change according to climatic conditions, quality of soil, and growing places available. Many are garden escapes, which, finding conditions to their liking, have increased and multiplied till they have added a new note to their environment.

Most of these invaders are foreigners, and though some are ornamental, many have become expensive pests which must be eradicated. Two of the most undesirable are Blackberry and Sweet Briar, whilst Gorse and Broom, Ragwort and Foxglove have been, and continue to be, a major source of expense to farmers and to local bodies.

It should be noted that all these plants have been introduced either deliberately with the idea that they would serve the same purpose as in their homelands, or accidentally in packings around imported goods, and in ships' ballast. In all, there were almost six hundred species by the year 1925, with a vast increase in the last few years. Our country was practically pest free till the advent of the white man. The only native plants which are an economic nuisance are *Acaena* spp., the Piri-piri of the Maori, corrupted by Europeans to Bidi-bidi, the prickly burr which sticks to sheep's wool, and devalues it. Most of the introduced weeds are small in stature, are more generally in pasture, and not such significant members of the roadside population, so will not come into consideration here.

The verges of our Northland roads are, in the main, attractively clothed with native plants, mosses, ferns, grasses, sedges and small shrubs, which provide in season a wealth of colour in foliage, flower or fruit, and for the student a happy hunting ground for plant treasures.

In late winter and early spring the Tea-tree (*Leptospermum* spp.) blooms in white, pink or red, with an occasional double for good measure. The further North one travels the richer the colour becomes, till in some areas where it is the dominant shrub, almost all are pink. In October, too, the large-flowered *Clematis paniculata* drapes itself over the taller shrubs beside the road, especially in the Waipoua Forest. The splendid panicles of those giants of the Lily family, *Cordyline* spp., and *Rhipogonum* with tiny green flowers, scent the air. *C. banksii* is an especially good garden subject, has more graceful habit than its stout sister, and a huge and more open inflorescence, with an exquisite perfume. It should be in every garden, and can now be found in several forms of leaf colour—green, bronze and almost red.

Where the road builder and his bulldozer have not been at work, two other shrubs often adorn the waysides in spring, both with showy

flowers of yellow—the Kowhai and the Golden Tainui, *Pomaderris elliptica*. Kowhai is very well known to New Zealanders, especially the larger leaved species common in our area; but it is of special interest to observe the difference in colour of the blossom. In some it is quite pale, almost cream, in others deeper, whilst I have seen a number in one area on stony land, just above high water, of rich golden, almost orange colour. The Golden Tainui seems to grow only on clay and dislikes volcanic soil, though its charming little sister *Pomaderris edgerleyi*, which festoons the low roadside banks in the Dargaville area, grows well on my rock garden. Its little wrinkled leaves and slender trailing stems are backed with rich bronze tomentum. It is a good ground-cover plant, of great distinction.

In early summer at least two of the Daisy family advertise their



The Golden Tainui, *Pomaderris elliptica*.



Dracophyllum latifolium at Otari Native Plant Museum.

presence with their masses of white flowers, which crown large, woody shrubs of varying heights. The really noticeable one is the Akepiro, *Olearia furfuracea*, which may be as high as twenty feet, lifting its head above most of the surrounding scrub. Its shorter cousin *Senecio kirkii*, often hidden among taller vegetation, has even more handsome flower heads up to 12in across, and most interesting fleshy leaves of an endless variety of shapes. Though in some areas this shrub is epiphytic, here in Northland it is generally growing on the ground.

A plant conspicuous by reason of its striking reddish foliage is another inhabitant of steep cliff sides, especially on the Cape Brett range and in the Mangamuka Gorge. This is the Spiderwood, Nei-nei, *Dracophyllum latifolium*, stemless in its baby state, but with many-

whorled branches, bare in their lower parts, but crowned at their tips with long, downward curving tufts of narrow, reddish leaves, which give a distinctly candelabra-like effect. This is an extremely difficult plant to move from its natural growing place, perhaps because it is an Epacrid, but if success is achieved it can hold its own in any company.

In midsummer Pohutukawas shade the coastal roadways everywhere and lay a crimson carpet around their feet. Especially beautiful groves line the coast roads around Saies and the Northern shores of Whangaroa Harbour. Colour varies in intensity, from deep crimson through reds, scarlet, and in rare cases, in pink. Less frequently seen, its sister plant, a woody climber with very handsome flower-heads of pure white is *Metrosideros albiflora*, well worthy of garden status.

Also in summer and autumn there are various berried plants to watch for, often enough decorating wayside borders and cliff faces. The common *Coprosma*, often called Karamu, is conspicuous with its branches heavily encrusted with yellow to orange, highly decorative fruits. Two other Coprosmas lend colour with their foliage—yellow-green in *C. arborea*, and shining bronze in *C. spathulata*, easily picked out among the prevailing greens.

The tiny flowers of the small liliaceous plant, *Dianella intermedia*, may pass unnoticed; not so the fruits, which are of the richest blue, intermixed with paler blue and, rarely, white ones, all borne on tall, very slender panicles up to three feet high. I have seen hundreds of these plants under tea-tree scrub in rather moist, almost boggy ground, making a cloud of blue beneath their dark canopy. Each berry may be from $\frac{1}{2}$ in to $\frac{3}{4}$ in long, its thread-fine stalks giving the illusion of floating. It is a good and easily grown garden subject.

Wayside banks, whether shaded or sunny, are not dependent on flowers or fruits for their beauty. They adorn themselves with ferns, mosses, lycopods, and shrublets of many kinds, plus a few orchids for good measure. Neither are they lacking in colour. You have the pink colours of new fern fronds uncurling, the pale gold or rich brown of the fertile fronds of *Blechnum discolor*, the fairy forms and delicate greens of the Lycopods, and the gorgeous gold sprays of *Lycopodium volubile* threading its way over the emerald mosses. How skilled must a gardener be to create such a picture?

As to foreign plants which are important in our wayside scene, it is rather surprising that the majority come from South Africa, and not from our nearest neighbour across the Tasman, as might be expected.

In Northland, farm frontages, and more frequently town sections, receive rather different treatment from those further south. Hedges are not so usual, and more ornamental planting is done even where the fence exists, or in towns where there is none, or only a very low wall; so the roadside has become more interesting and colourful, providing

great scope for the imaginative gardener, and it is here that exotics are generally to the fore.

Bulbous plants from South Africa have often become naturalised here, Freesias and Lachenalias in particular establishing themselves and often threading up hedgerows and filling the place with perfume and colour. Others, not so welcome, are several species of Oxalis, which, though colourful in bloom, are real pests and extremely difficult to eradicate. I have seen a small hillock about five or six yards square covered with the showy pink blossoms of one of these invaders. When dealing with such plants we realise the necessity of our present-day restrictions on plant importations.

Among the most popular road or street-side plantings, very showy for colour and hardy in tough conditions are *Gazania* and *Arctotis*. These now come in a variety of colours, due, no doubt, to propagation from seed. A good companion for these, and also from South Africa, is the Red Hot Poker (*Kniphofia* spp.) which is often grown along farm frontages.

Perhaps most common among our roadside invaders is the pale apricot-coloured *Watsonia* which has taken over large areas of land which it depreciates in value. Of more garden worth is a *Gladiolus*, slender stemmed with rather narrow leaves, slightly frilly-petalled, greenish-white flowers, found in wet areas above Matauri Bay. This plant requires warmth as well as wet, and is quite tolerant of salt spray. I first saw it growing on the steep and rocky ledges on the south Hokianga Head, where it flowered profusely.

Montbretia, a bulbous plant from South Africa, no longer entitled to that name, but well known by it, has become extensively naturalised in Northland, and makes a gay and almost unbroken ribbon along the roadsides south of the Waipoua Forest.

Agapanthus are also becoming more common and naturalise themselves, in blue and white, on rocky banks where humans might find planting impossible.

A bright splash of red along a little streamside in Hokianga made me investigate, and there in full bloom and growing almost into the water, was a large patch of *Schizostylis coccinea*. The pink form, 'Mrs Hegarty', is an even better plant, though not common. The Royal Horticultural Society now lists several new forms of great interest.

In a boggy place in this same area was a mass of the mauve-flowered pond weed or Water Hyacinth, from tropical America. This has proved a dangerous plant, often choking waterways, and its cultivation is now forbidden.

The pink *Belladonna* lily is a common garden escape that is often seen along roadsides or on some old, deserted home site, together with

another African which colonises wide areas, the white arum, *Zantedeschia aethiopica*. Blooming in the winter when flowers are scarce, they provide profitable picking for more southern markets.

Though most of these exotics are bulbous or rhizomatous, there are also some shrubby ones which have made a definite mark on our landscape. *Erica baccans*, with bright cerise flowers, covers many acres of countryside in the Dargaville area, and provides another source of revenue from the market. Soil and climate seem exactly to its liking.

Psoralea pinnata, with blue, pea-shaped flowers, is quite an attractive shrub, but has spread over so much country that it is now classified as a noxious weed, though in its own country, South Africa, it is ranked among garden plants.

From the Himalayas comes a rather coarse herbaceous perennial which I much dislike, though it seems to be quite favourably regarded in England. It is *Leycesteria formosa*, and infests our roadsides between Whangarei and Auckland. Another herbaceous perennial, the Mexican Devil Weed, a white-flowered form of *Eupatorium*, lives up to that name, seeds itself abundantly, and is now widespread in Northland, penetrating deep bush wherever an opening is made for road, fence, or power and telegraph lines. The mauve and purple-flowered members of this genus are beautiful garden ornamentals and seldom produce seedlings.

Lantana camara from the sub-tropics and known here as "Mile-a-minute," is a tall climber or scrambler, and in north Hokianga ramps as its name indicates—runs up tall trees, or forms tangled masses along the shore, becoming almost impenetrable, though in gardens, if well pruned and controlled, it is attractive.

The so-called Gingers, *Hedychium* spp., are from India, and flourish in a variety of soils and situations, often on roadsides or stream sides where they may be submerged during floods. They are ornamental in flower and fruit, and may be easily identified on the main highway between Whangarei and Auckland. *H. flavum* has yellow and orange flowers, but *H. coronarium*, with white, sweetly scented flowers is more usually seen in gardens, and both make rapid increase.

The fact that so many of these exotics have the ability to increase so rapidly in our climate, in some cases to the detriment of our vegetation as well as to our economy, must make us wary of importing species without adequate safeguards. On the contrary, many plants from other lands have beautified our countryside and have lent interest and colour to our highways, providing a pleasant contrast to the many greens of our native vegetation. Some of them also have an ability to grow on most difficult and inhospitable sites. These could well provide pointers for those who choose plants for roadside areas.

CONTROL OF MARCHANTIA POLYMORPHA

by ELLA O. CAMPBELL, Botany Department, Massey University

Introduction

Three years ago it was reported that the liverwort, *Marchantia polymorpha* var. *aquatica*, had become established in humid glass-houses and shade-houses in the North Island of New Zealand (Campbell, 1968). Whereas the plant at times was proving to be a nuisance, it was confined to moist places where it could be kept under reasonable control. Now, however, a form more like var. *polymorpha* is also to be found (Fig. 1). This is a much hardier plant with a thicker, firmer thallus which shows little evidence of a dark centre line. It grows in drier situations and spreads very rapidly by means of outward growth, by water-borne gemmae and by air-borne spores. Since it is proving to be a serious weed in nurseries, even when sterilized soil is used as standard procedure, an experiment, described below, was carried out in an attempt to find a method of controlling it.

Methods of control suggested in other countries

In some other countries *M. polymorpha* also occurs as a nursery weed, particularly in England, in the Netherlands, and in the Oregon and Washington states of the United States. Methods of control suggested in these countries for the most part involve the use of fungicides. Thiram applied as a complete surface cover at a concentration approximately five times that when used as a fungicide is reported to be effective in destroying thalli although complete initial kill was rarely achieved (Henson, 1968). Thiram is also recommended for use in the Netherlands (van de Laar, 1964). Another substance which has been tested is dodine acetate. When used as a spray, at 4.0lb per 100 gallons (as 6.0lb 65 per cent Melprex in 100 gal water), it was found to kill *Marchantia polymorpha* but had no phytotoxic effect on 15 shrubs tested (Carter, 1969).

Experiments carried out at Massey University

Experiment 1. This was conducted in an unheated glasshouse in June and July, 1971 on a batch of 12 *Rhododendron* plants. These had rooted from cuttings which had been planted in square, 4 inch, plastic pots eighteen months previously. *Marchantia* covered the entire surface of the soil. Solutions used were: A. 6 gm. copper sulphate and 1 ml Tween (as a surfactant) in 1000 ml. distilled water, B. 4.6 gm Cuprox in 1000 ml distilled water, C. 6 gm Melprex in 1000 ml distilled water, D. distilled water. The solutions were sprayed on to the *Marchantia* plants as a foliar spray in such a way that they did not reach the *Rhododendron* plants or the soil surface. The *Rhododendron* plants showed no effects of the treatment.



Plant of *Marchantia polymorpha* showing gemma-cups x 2.

Photograph—R. W. S. Leitch.

Three pots were sprayed initially with 25 ml. of solution A, then after 7, 14, 21 and 28 days with 10 ml. of the same solution. Three pots were sprayed initially with 10 ml. of solution B and after 7, 14, 21 and 28 days with 10 ml. of the same solution. Three pots were sprayed initially with either 10 ml. or 25 ml. of solution C, then after 7, 14, 21 and 28 days with 10 ml. of the same solution. As a control three pots were sprayed with distilled water at the same time as the others.

When an examination of the *Marchantia* plants was made after 21 days, those treated with solution A were dead, those treated with solution B were dead in older parts but had active, green-growing

tips, those treated with solution C were dead in some areas but showed a few green tips, while the control plants were still alive. The use of an initial quantity of 25 ml. of the Melprex solution was slightly more effective than 10ml. in killing the plants. After 28 days the different effects of the various spray treatments were even more pronounced. There was no regrowth of plants which had been killed.

Discussion

In attempting to control *Marchantia* we have to deal not only with the thallus but with the gemmae also. Spores are less of a problem as they are produced only where well established male and female plants are growing together. In the thallus the growing-tip is the most resistant portion and can remain alive when the rest of the thallus is killed by spray. If conditions are suitable, a single cell can regenerate a new thallus. This makes it difficult to obtain a complete kill. Gemmae, too, are difficult to eliminate. Their growth is arrested while they are on a living thallus, either in gemma-cups or lodged on the underside amongst the rhizoids. However, since they start into growth as soon as the adult plant dies and since ones amongst the rhizoids are well protected from spray, new thalli may appear after all adult plants are seen to be killed.

Control of the spread of *Marchantia* will be aided by any measure which prevents the formation of gemma-cups and of gemmae whereas the opposite effect will be obtained by any measure which induces their formation. Voht in his studies of *Marchantia* (1941, 1943) has shown that a low supply of nitrogen prevents the formation of gemma-cups and that a low supply of phosphate induces the formation of large numbers of gemma-cups with many gemmae. With these results in mind, attention to the type of potting mix could aid in controlling the spread of the *Marchantia*. Lowering of the phosphate content of the soil is to be avoided. Lowering of the nitrogen content would be advisable only to the extent that the growth of the potted plants was not checked.

The most promising method of control, on the basis of the experiment described above, seems to be the use of copper sulphate with Tween or other detergent as a spreader-sticker. Possibly one spraying with this would be sufficient to kill off the *Marchantia* plants but additional sprayings would make certain. Melprex is more expensive but would be useful when a large planted area has to be sprayed. Thiram also is more expensive but results from experiments conducted in the Netherlands (van de Laar, 1964) indicate that it is effective when used as 10 gm. TMTD in 400 ml. water per m². More recently the herbicide Chloroxuron (= tenoran 50%) is being advised in the Netherlands (B.

Roelofsen, pers. comm.). It has the advantage of killing annual weeds as well as the liverwort but it is expensive and, unless washed off immediately, causes damage to any young leaves that it contacts.

Acknowledgment

David Sollitt kindly cared for the plants during the course of the experiment.

REFERENCES

- Campbell, E. O., 1968. *Marchantia polymorpha* var. *aquatica* in New Zealand. *Tuatara* 16: 179-184.
- Carter, A. R., 1969. Control of Liverwort, p. 216 in Rep. Luddington exp. Hort. Sta. for 1968. Stratford-on-Avon.
- Henson, I. E., 1968. The liverwort, *Marchantia polymorpha* L., as a weed problem in horticulture; its extent and control. *Tech. Rep. Agric. Res. Coun. Weed Res. Organ.* 10: 1-21.
- van de Laar, H. J. 1964. Bestrijding van levermos in de bak in Jaarboek Proefstation voor de boomwekerij te Boskoop 1964.
- Voth, P. D., 1941. Gemma-cup production in *Marchantia polymorpha* and its response to calcium deficiency and supply of other nutrients. *Bot. Gaz.* 103: 310-325.
- Voth, P. D., 1943. Effects of nutrient-solution concentration on the growth of *Marchantia polymorpha*. *Bot. Gaz.* 104: 591-601.



HORTICULTURAL DIVISION HEAD RETIRES

During his term as director of the Agriculture Department's horticulture division, Mr A. M. W. Greig, who has retired after 23 years in office, widened the scope of the division's activities and was involved in framing regulations designed to safeguard the horticulture industry.

After eight years spent in North Auckland as a citrus and passionfruit grower, Mr Greig joined the Department of Agriculture in 1937.

He came to Wellington in 1944 as an investigating officer for the Minister of Agriculture and Marketing and in 1948 returned to the horticulture division as executive officer and later in the year was appointed director.

Mr Greig was involved in the drafting of the Agricultural Chemicals Act (1959), the Apiaries Act (1969) and the Plant Quarantine Regulations which are soon to be gazetted.

He played a prominent part in the establishment of the Viticultural Advisory Committee and was chairman from 1958.

IN APPRECIATION OF ROSEWORLD '71

By the Editor

NEW ZEALAND WAS INDEED HONOURED in being chosen as the venue for the First World Rose Convention. The appointment of the National Rose Society of New Zealand as the host society was a fitting token of the esteem in which our roses, rosarians and horticulture are held abroad.

However such honours no matter how well deserved do not come lightly and New Zealand and the N.R.S.N.Z. are deeply indebted to Messrs. Doug. Butcher and Hec. Taylor of Central Taranaki for their efficient spadework and successful promotion of our claims at a Royal National Rose Society International Conference held in London in 1968.

In holding the First World Rose Convention New Zealand faced the task of not only meeting a certain standard but of setting the standard for future World Conventions. All who had the good fortune to visit Roseworld '71 will agree that the standard has been set very high indeed. The next host Society is the American Rose Society in 1974 and in 1976 the Royal National Rose Society will celebrate its centennial by holding the third world rose convention. Both will have to pull out all stops to equal, let alone surpass, this initial effort.

Hamilton having been chosen as the New Zealand venue the Waikato and Te Awamutu District Rose Societies were deputed to act on behalf of the national body in organising the convention and they fulfilled their task in no uncertain manner.

Picture a horticultural, floral art and trade exhibition practically on the scale of the famed Hagley Park Exhibitions held by the Canterbury Horticultural Society during the 1950s and 1960s but occupying six days instead of three. (Anyone who has kept floral exhibits fresh and attractive over a limited period knows what this means.) Superimpose on this three two day rose shows, to wit an International, a National and a Convention Rose Show, plus fifteen sessions of lectures, panels, demonstrations and a nurserymen's seminar covering such diverse subjects as hybridising, native flora, virus diseases in roses, research with roses, Interflora demonstrations, Trial Grounds, judging and staging, growing roses for autumn shows, old fashioned roses, miniature roses, Ikebana and judging floral art and you will realise there was something for everyone. Speakers included such noted authorities as hybridists, Messrs. Sam McCready IV, Ireland, E. B. le Grice, Britain, R. V. Linquist, U.S.A., Hans Spek, Holland, Nils Poulsen, Denmark, H. E. W. Buss, president of South African Rose Society, John Mattock, Britain; Mr Ray Mole on N.Z. Flora; Research, Drs. Klessner, South Africa, E. W. Lyle, U.S.A., P. Fry and K. Hammett, New Zealand;



General View of Main Hall, Native Planting in foreground.

Other distinguished participants were Mr John van Barneveld, nurseryman, U.S.A.; Dr A. S Thomas, noted rose authority and author, Australia; Mr Deane Ross, nurseryman and authority on old roses, Sth. Aust.; Mr Ralph Moore, hybridist of miniature roses, California; Mr Norman Sparnon, Ikebana, Australia; the Interflora team comprised Mrs Esther Burrowes and Mrs Patricia Richan, Mr Alister Timpany, all Dunedin, Mr Denzil Philp, Wellington, and Jac Berkhout, formerly of Holland, with Mr Bernard Spiro, Auckland as commentator, plus an assistant for each demonstrator.

The sessions etc., were chaired by an equally distinguished band in Messrs. John van Barneveld, and L. E. Satterlee, U.S.A., Dr E. W. Lyle, President of the American Rose Society, Mr J. B. Wise, South Africa, Messrs. Frank Bowen, R. C. Balfour and L. G. Turner, President, Deputy President and Secretary of the 100,000 strong Royal

National Rose Society, Mr Y. Kameoka, Japan, Messrs Lionel Lawrence and David Ruston, Australia, Messrs. Allen Scott and P. N. Stephens, New Zealand, and Dr Swarup, India. David Ruston would surely be the most dedicated amateur rosarian in the world for on the family vineyard and stone fruit orchard at Renmark, South Australia, he grows fifteen thousand roses and grows them well in this inland district which only averages nine inches of rainfall per annum. Needless to say their success is largely due to the irrigation water from the mighty Murray River. Also needless to say this most likeable gentleman of say thirty summers is still a bachelor.

The great majority of the above sessions were available only to thirteen hundred Convention delegates but there were sessions of the Interflora and Ikebana demonstrations for members of the general public. In addition the general public could attend the evening entertainment in the Convention Centre. The latter was the Hall complex of the Waikato Show Trust and the 73,000 sq. ft. of floor space catered for the Convention functions excepting the Interflora Demonstrations which were staged in the Ruakura Farmers' Hall, the Nurserymen's seminar, and one session that overlapped. Social functions such as the Mayoral Welcome, the Buffet Dinner and the closing Banquet were naturally held in more appropriate surroundings.

The lectures, demonstrations etc., were well attended and it is most pleasing to record that the Lecture on "Native Flora" by Mr Ray Mole, Curator of the Otari Native Plant Museum, was very well attended and well received. It followed the lines of his address to our Dominion Conference at Wellington, March 1968.

Tours provided strong competition to the lectures and if it had been possible to avoid this conflict of interest the attendance at these sessions could have reached embarrassing levels. As well as local tours of city gardens there were longer tours embracing Tauranga, Te Awamutu-Waitomo, Cambridge-Matamata, Rotorua, and Te Aroha. In addition scenic trips by jet boat on the Waikato River were available. Many noted scenic spots were visited as well as notable gardens, public and private. Some also took in local Rose Shows. Naturally these tours were most popular with visitors especially those who had come from overseas. Your writer was committed to attending the various lecture sessions and for the following impressions he is indebted to the Editor of "The Rose", bulletin of the West Otago Rose Society, to conversation with visitors and private views of some of the gardens concerned before and after the Convention. All the gardens visited drew favourable comment especially from the overseas visitors. The size of the roses, both blooms and bushes, caused wonderment among those from the Northern Hemisphere. Many of these come from harsh climates where you do



Giant Floral Art Bay, "Coastline".

not choose as to whether you will winter prune heavily, moderately or lightly. Old Man Winter decides that and the result is inevitably heavy pruning and bushes small by New Zealand standards. Consequently large healthy rose bushes fed on lavish dressings of well rotted animal manures and lightly pruned are to them something just out of this world. Not only did the roses impress but also the gardens the roses were set in with their fine mature, trees, shrubs, verdant lawns and other borders. Among the Hamilton private gardens visited were the Doctors Rogers' garden, on the west bank of the river and but a stone's throw from Victoria St., Mr and Mrs Pollock's garden with its roses, trees, shrubs and a delightful area of native bush running down to the east bank of the Waikato. Mr and Mrs Geo. Wright's delightful

corner section in Nixon St, also visited were the plantings at Temple View, the Mormon centre.

In Te Awamutu the predominantly rose gardens of Mr and Mrs P. N. Stephens and Mr and Mrs W. R. Murtagh similarly impressed whilst country gardens included Mr and Mrs B. Tomsett's superb garden, French Pass, Cambridge, another breathtaking garden was that of Mr and Mrs R. Garland, Leamington, Cambridge and then the beautifully landscaped garden of Mr and Mrs S. J. McMinn with its lovely panorama of the Waikato Plains. Then of course the town of Cambridge could not but impress with its mighty trees and Old World atmosphere.

Two public gardens viewed were the two rose gardens specially planned and planted for the World Convention. It would be invidious to attempt any comparison for they are totally different concepts. The new Hamilton rose garden is situated in a shallow bowl in a large area of parkland on the left bank of the Waikato River downstream from the Cobham Bridge and in an area being developed as a botanical garden. It has the advantage that it may be looked down upon and is of slightly undulating terrain, but the traveller may well pass it unaware of rare beauty so close at hand. The Te Awamutu rose garden is situated just north of the business area on the State Highway just south of the Cambridge turn off. Not even the most unseeing eye could miss it. Because of this it quite possibly has more visitors than the Cobham rose garden. It too is delightfully conceived and every effort has been made to avoid that impression of regimentation which so easily results on relatively flat areas. It features an unusual fountain and a specimen tree of great interest to all gardeners, the DAWN Redwood, *Metasquoia glyptostroboides*. Apart from the unusual history of the species this fine tree must have been a very large plant when set out or has made exceptionally quick growth even for a Dawn Redwood for in early 1969 the area was a bare paddock. These two gardens contained large collections of the very latest cultivars and may well serve as display gardens of recent rose introductions for Waikato gardeners as well as providing pleasant areas for quiet relaxation.

Talking of rose gardens brings us back to the Convention centre where not only were there attractive rose beds outside but the centre of the main hall was occupied by two large beds of roses containing nigh on two thousand five hundred bushes. All had been grown over the last two seasons in large plastic film containers. At ground level they provided a spectacular sight but the best views were from the balcony and the mezzanine floor. They were well in bloom at the beginning of the week and as the week progressed more and more flowers opened until at the end they were a kaleidoscope of colour. Accessory to these was the rose gazebo and the setting for the display was pro-

vided by a garden of native flora modelled on a bush area between Raglan and Kawhia complete with a stream stocked with trout and a garden pool with water lilies. Nor were our tiny alpiners forgotten for there they were in hundreds in their own mountain herb field. They had been collected by members of the Junior Naturalists' Club under the guidance of the Hamilton City Parks Department who were responsible for this exhibit of N.Z. flora. This graded up through sub-alpine bush, up to eight feet high, to taller bush containing trees reaching thirty feet in height. The scene was realistic indeed and enticed birds through the windows to enjoy the bush setting.

An exceptionally fine exhibit was the suburban garden laid out by our Waikato District Council, but even this was surpassed by their exhibit in the rear vestibule which backed on to it. Here one found a collection of plants, both exotic and indigenous, grown in New Zealand gardens and assembled and displayed by the local District Council. This is described more fully and most ably elsewhere and it will suffice to say that as a display of horticultural plant material it would have rarely been equalled and never surpassed anywhere, anytime. Congratulations, Waikato District Council.

Trade displays were centred in the East wing together with postal facilities, information bureau, a shop providing souvenirs, films etc., a bookshop displaying a wonderful collection of horticultural books, a Maori meeting house and a live carving display, exhibits by various cultural groups etc.

The shows were held in the main hall along the north and south walls, with an overflow into the vestibule. The benches were broken up at intervals by massive floral art bays containing exhibits on the theme "It's New Zealand". They included "Haere Mai", "Coastline", "Pioneers" (done with old roses), "Wool", "Kauri", "Wine", "Industry", "Greenstone Bay", "Blue and Green Lakes", "Famous New Zealander—Rowena Jackson", "Waitomo Caves", "Haere Ra". Not only did the arrangement of these exhibits entail much planning and many thousands of hours of work by specially invited floral artists but the daily replacement of faded plant material was a demanding task.

In the NW corner was a massive display of Ikebana again by artists drawn from far and wide the centrepiece being a huge blacked and silvered driftwood structure by Mr Norman Sparnon of Sydney, N.S.W. These arrangements too were renovated daily.

The International Rose Show drew nearly 350 entries, 13,000 blooms, including several entries from Australia, the most distant being Mr David Ruston of Renmark, South Australia, who obtained a second in Class 1, a Display of Roses, seven vases, no mean feat. Mr H. Adams, Australia, obtained a second in Class 2 for twelve Exhibition roses, a

worthy effort. The Champion Bloom was Mr D. Cosgrove's (Wellington), 'Silver Lining', Premier Decorative, Mr W. R. McCredie's (Auckland), 'Virgo', Premier Decorative Stem, Mr W. R. McCredie's 'Europeana', and the Premier Stem of Florabunda, Mr S. B. Monck's (Gisborne) 'Arthur Bell'. The Champion Bloom at the National Show was Mr H. L. Perry's (Palmerston Nth.) 'Percy Thrower' and at the Convention Show 'Bon Soir' by Mrs D. Vercoe (Bay of Plenty). A feature of the final show was the Wattie Gold Cup, to be won outright, for six exhibition blooms. This was won by Mr D. Cosgrove of Wellington with 'Summer Rainbow', 'Red Devil', 'Percy Thrower', 'Silver Lining', 'John F. Kennedy' and 'Bon Soir'. A feature of these shows was that the blooms became better and also held better over the two days of the show as the week progressed.

Visitors from overseas came from Denmark, Australia, Canada, India, Japan, U.S.A., South Africa, Britain, Northern Ireland, Switzerland, Holland and last but by no means least Mme. Meiland from France.

Highlights of the Convention were firstly the naming of a new Sam McGredy Rose at the official opening as 'Lady Porritt'. Her excellency was presented with a bunch of 'Lady Porritt' by Mr Sam McGredy IV. It is a beautiful lemon and orange coloured rose.

Was it a coincidence that the other Northern Ireland hybridisers, Dicksons of Hawlark, at the same function named a deep orange and apricot floribunda 'City of Hamilton' and presented the Mayoress, Mrs Minogue, with a bunch?

The news that the Rose Convention stamps had proved so popular that they had sold out and the Post Office was ordering a further printing.

Finally, the awarding and the presentation of the Dean Hole Medal to our N.R.S.N.Z. President, Mr D. S. Butcher of Stratford. This the highest award made by the Royal National Rose Society has only been awarded outside Britain five times.

Finally the city of Hamilton could not but impress this visitor from The Garden City of New Zealand with its lovely private and public gardens, its open spaces and trees and above all the roses everywhere. Perhaps even a suggestion will not come amiss for it will not fall on deaf ears in a town that may well become the Garden City of the North. Why not replace those guardsmanlike ranks of Upright Cypress in Naylor St. with one of our lovely native species? Why not our lovely Kawaka, *Libocedrus plumosa*? With your rainfall of fifty inches a year and a bit of nursing Naylor St. would really typify New Zealand.

PLANT RAISERS' AWARD 1971

The Royal New Zealand Institute of Horticulture announces two Awards made by their Plant Raiser's Award Committee for 1971, namely:

1. To Mr **Arthur Farnell**, of **Auckland**, for the raising of his 'All Doubles' strain of Gerbera.

GERBERA

The production of an 'All Doubles' strain of seed by Mr Farnell is a decided break-through in Gerbera culture. Over the past six years Mr Farnell has won the Campin Memorial Bowl for twenty-four distinct double varieties at the Carnation and Gerbera Society's Show in Auckland. To do this five times is certainly some achievement. There is considerable demand from overseas nurserymen for 'Farnell's All Doubles strain' of Gerbera seed—one Californian nurseryman alone requiring 25,000 seed for next season. (See September Journal.)

2. To Mr **Lawrence Robinson**, of **Masterton**, the raiser of the cultivar Photinia 'Red Robin'.

PHOTINIA 'RED ROBIN'

Mr Robinson bred the cultivar a little over ten years ago, and it has made a great impact in horticulture. Mr Robinson who is interested in the genus Photinia is now working on another form. It is one with a prostrate habit of growth with the same red tips which will prove to be a most useful landscaping subject for covering banks and filling in areas without excessive height.

PLANT RAISERS AWARD 1972

NOMINATIONS for the above Award for 1972 are invited and may be submitted to the Dominion Secretary of the Institute, P.O. Box 450, Wellington, by June 30th (closing date).

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

A cultivar is an assemblage of cultivated plants which are distinguished by any character sufficient 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.

OBITUARY

Mr Charles William Corner was the last of the ten foundation members of the Institute of Parks and Recreation Administration. He was elected a Life Member of that Institute in 1953. He came to Napier from Colchester, England, and was appointed Superintendent of Reserves in Napier in 1918 retiring in 1953 being elected an Associate of Honour of the R.N.Z.I.H. in that year. He was responsible for the restoration of the recreation areas in the city after the 1933 earthquake.

Among the many features for which he was responsible were the Norfolk Pines on Marine Parade, the Phoenix Palms in Kennedy Road, Kennedy Park Rose Gardens and the initial development of Kennedy Park Motor Camp. A noted authority on turf culture. Napier wickets were considered among New Zealand's best.

Mrs E. L. Dowding, Auckland. Mrs Dowding was Secretary of the Auckland Horticultural Council from 1959; Secretary of the Auckland Rose Society for seven years and an Honorary Life Member; a foundation member of the Auckland Lily Society, also Secretary and Editor; first President of Ikebana International Chapter 68, Auckland and a qualified judge of cut flowers and floral art; a foundation member of the Auckland Garden Club, President for sixteen years and a Life Member. A Fellow of R.N.Z.I.H., Mrs Dowding was made a Life Member of the Auckland Horticultural Council in 1969 in recognition of her services to horticulture and at the time of her death had been nominated by the Auckland District Council for an Associate of Honour award in this Institute.



POLLEN SOURCES

(An extract from a letter from National Beekeepers' Assn.)

While most people today understand the need of honey bees to assist in the pollination of some plants, it is our experience that few people know of the need bees have for pollen at certain times of the year. Pollen with its very high protein content, is a vital part of the diet of honey bees in their larvae state. Some authorities putting the requirements as high as 60lbs of pollen per hive each year.

Over the year farming methods throughout the Canterbury area, and indeed throughout New Zealand have produced considerable changes in the appearance and composition of the country side. Too often in the past we feel that this progress has taken the form of

removing hedges, bushes and trees resulting in areas now being pollen deficient for the commercial keeping of honey bees.

However, interest is again being shown in the establishment of shelter belts and ornamental areas which is giving an opportunity for farmers, and other tree planting organisations to include in their planting programmes trees which have beauty, give shelter and also provide nectar and pollen for bees.

Any assistance you may be able to give in helping to plant trees useful to the beekeeping industry, which is itself vital to the New Zealand farming scene, would be greatly appreciated by our association, and to that end we would like to draw your attention to the following trees known to be very suitable in the Canterbury area.

COMMON NAME	BOTANICAL NAME	FLOWERING PERIOD
Exotic:		
Flowering currant	<i>Ribes sanguineum</i>	August-November
Gum Trees	<i>Eucalyptus</i> spp.	October-February
Horse chestnut	<i>Aesculus hippocastanum</i>	October-November
Limes	<i>Tilia vulgaris</i>	December-January
	<i>T. platyphyllos</i>	December-January
Rosemary	<i>Rosmarinus officinalis</i>	August-December
	<i>R. officinalis prostratus</i>	July-November
Sycamore	<i>Acer pseudoplatanus</i>	October-November
Tree lucerne	<i>Cytisus proliferus</i>	June-September
Wattles: Black	<i>Acacia decurrens</i>	August-October
Cootamundra	<i>A. baileyana</i>	July-September
Willows: Crack	<i>Salix fragilis</i>	September-October
Weeping	<i>S. babylonica</i>	September-October
Pussy	<i>S. caprea</i>	August-September
Native:		
Cabbage tree	<i>Cordyline australis</i>	November-December
Five finger	<i>Neopanax arboreum</i>	July-October
Flax	<i>Phormium tenax</i>	November-January
Fuchsia	<i>Fuchsia excorticata</i>	September-December
Kamahai	<i>Weinmannia racemosa</i>	November-December
Hebes	<i>Hebe</i> spp.	September-January
Kowhai	<i>Sophora microphylla</i>	August-November
Miro	<i>Podocarpus ferrugineus</i>	September-October
Rewarewa	<i>Knightia excelsa</i>	October-December
Southern rata	<i>Metrosideros umbellata</i>	November-January
Wineberry	<i>Aristotelia serrata</i>	October-December

T. J. CATTERMOLE, President,
302 North Road, Christchurch, 5.

12th NEW ZEALAND SCIENCE CONGRESS

January 31 - February 4, Palmerston North

THE 12TH NEW ZEALAND SCIENCE CONGRESS will be held at Massey University, Palmerston North from January 31 - February 4, 1972. The Congress is being organised around the theme "The Cost of Growth", which, the Manawatu Branch of the Royal Society, who are organising the Congress, consider a very relevant topic for New Zealand scientists to discuss at the present time.

To interest the scientist papers will be presented both within disciplines and across several disciplines.

To encourage participation of the non-scientist two evening Public Symposia will be held in Palmerston North City, to hear papers and discussion on "The Cost of Growth" and "The Cost of Stagnation". The papers to be presented during the daytime sessions will be grouped under the following headings within the theme (a) the growth and development of science in New Zealand (b) growth and use of natural resources, and (c) growth and its impact on society.

There may be some people who wish to receive information and are not yet doing so. To rectify this, interested persons should send their name and address to: Dr. T. J. Brown, Secretary, 12th N.Z. Science Congress, C/- Public Relations Office, Massey University, Palmerston North.



NEW ZEALAND SHRUBBY SENECIOS

Information Wanted

Cultivars of our native shrubby Senecios (family Compositae) are poorly understood and an attempt is being made by the Botany Division of the Department of Scientific and Industrial Research to document them for scientific purposes.

The identity of some of the early garden names presents a difficult problem. In the famous 1906-7 nursery catalogue of Nairn and Sons, Lincoln Road, Christchurch, *Senecio chathamica* and *S. fasifera* are listed, while between 1926 and 1930 the catalogues of Duncan and Davies Ltd. of New Plymouth mention *Senecio crustii*, *S. hunteri* and *S. hybrida*. Dr D. G. Drury, Botany Division, D.S.I.R., Private Bag, Christchurch, would be most interested to hear from any gardeners who know the identity of these long forgotten garden names.



GRAND FLORAL TOUR

APRIL 17 – JUNE 16
1972

SINGAPORE — Botanical Gardens, Orchid Displays.

HONG KONG — Tiger Balm Gardens, Artificial
Flowers Demonstration.

TOKYO — Bonsai Demonstration.

AMSTERDAM — **FLORIADE 1972.**

LONDON — Kew Gardens, Chelsea Flower Show.

TORONTO — Niagara Falls.

CALGARY — Canadian Rockies.

VANCOUVER — Butchard's Gardens, Queen Elizabeth
Arboretum.

LOS ANGELES — Hollywood Disneyland, Arboretum.

PAPEETE — Tropical Island Orchids.

A GARDEN LOVER'S WORLD TOUR OF A LIFETIME FOR \$1750

Tours of art galleries, historic places and free time including
time for a European tour if desired.

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For further information enquire from your nearest
UNION TRAVEL office.

DISTRICT COUNCIL NOTES

SOUTH TARANAKI

Spring activities for South Taranaki commenced this year with a pruning demonstration held at the home of Mr and Mrs Andrew Snowdon of Inaha, where several demonstrators showed the practice of their art on roses, apples and flowering shrubs.

Later in the month came Arbor Day and a joining with local authorities in planting the western section of the Hawera Railway Station (recently levelled, kerbed and channelled) and a further planting along the Normanby railway line. Very exposed and windswept, these small trees seem to be surviving—and should presently help to soften and beautify a harsh railway line.

Late AUGUST brought a circuit meeting at Kaponga, where an attendance of some thirty-five was welcomed by the President, Mr R. Syme. The first part of the evening was given to a talk by Mr W. J. Messenger of Inglewood who discussed the growing of small fruits for the home garden. He gave hints on the care of strawberries, raspberries, currants, cranberries, passionfruit, Chinese gooseberries, outdoor grapes, gooseberries, boysenberries and even rose hips.

A bench of fine specimens was discussed by Mr Hollard, from whose garden (only a mile or so away on the slopes of Mt. Egmont) many had come. *Rhododendron* 'Pink Delight', *R. barbatum*, *R. martelli*, *R. arboreum*; *Kermesinum*; Camellias 'Betty Sheffield' 'Supreme', 'Donation', 'Phyl. Doak', the Kunming 'Crimson Robe', and, new to New Zealand, 'Fraterna'; *Daphne leucanthoe Variegata* and *D. genkwa*; *Hamamelis mollis* and its newer cousin with flowers almost brown in colour; *Edgeworthia papyrifera*; *Banksia spinulosa*; the cyclamineous narcissi, 'Dove Wing' and 'February Gold'; and the colourful leaves of the purple Rangiora, *Chamaecyparis 'Crispii'* and *Phormium 'Williamsii'* were named as were many others.

Very appropriately for a meeting held almost under the shadow of Mt. Egmont and close to the gates of Egmont National Park, the chief speaker for the evening was Mr James Taylor of Ngaere. He had spent five years in the Westland National Park and two years overseas—and is now to take up his new position as supervisor of National Parks with his headquarters in Wellington. Mr Taylor illustrated a most interesting talk with beautiful colour transparencies—forests and flowers and mountains and lakes found in the Yosemite, San Andreas (with an earth fault similar to the alpine fault in the South Island) Juno Park in Alaska, Glacier Bay with its salmon boats, Yellowstone, Colorado, Pennsylvania and Exmoor were shown. So, too, were fascinating studies of wild life—the black-tailed deer, the furry marmot, the 60-ft. humpbacked whale, the bull moose, the black bear, the prickly porcupine, the beaver and the woodpecker.

In his talk, Mr Taylor dwelt on the value of visitors' centres in National Parks, where something of the history of the park might be recorded and specimens of its flora exhibited. He thought such a centre, if one could be established on Mt. Egmont, would be of great value and commended the current appeal for funds to provide for its establishment.

SEPTEMBER.—A one hundred and forty foot dredge floating quietly on its sixteen million gallon pond, with its stationary cutting bit exposed against a sand bank and its long black rubber-lined flexible hose pipe snaking behind

it to the treatment plant—this was the sight that greeted some sixty members of the South Taranaki District Council when they took part in an organised trip to the Waipipi ironsands at Waverley. The 22ft. sand bank is being eaten away and the useless sand, after being separated at the treatment plant, is returned to the dredging pool to build another bank. The iron concentrate, attracted as it passes over magnetic drums, is then piped through another rubber-lined hose to the stockpile (capable of storing some 80,000 tons of dry concentrate) to await shipment.

After a picnic lunch at the Waverley Domain, the party moved by car to visit the lovely garden of Mr and Mrs Ross Richardson at Waitotara. Here, at the end of a tree lined drive, just beginning to show the first colour of spring, stands the homestead surrounded by smooth lawns and flower beds. Carefully tended rose beds gave promise of summer colour and perfume to come, rock pockets sheltered many different plants, and the rich purple of *hardenbergia* provided colour contrast at the swimming pool. At the back of the house, the ground slopes down some hundred feet to a stream, and here slopes edged with limestone rocks and ponga trunks hold the soil and provide shelter for rhododendrons and magnolias *M. stellata*, both rose and white, and *M. denudata* were in bloom; as were many camellias. Looking up a pretty valley, one finds a lovely vista of hills and a piece of native bush which is to be set off with a further planting of natives.

The opportunity to visit a second gracious garden took the party back to Waverley to visit the home of Mr and Mrs Arthur Dickie. Here again smooth green lawns surrounded the homestead before which stood two beautiful trees—a *Magnolia x soulangeana* in full bloom and said to be sixty years old and an *Idesia polycarpa* bearing countless pendent bunches of glowing red berries on its bare branches. Another lovely splash of colour was provided by a tall *Camellia*, 'Phyl Doak', standing sentinel at the front door and reaching its pink flowered branches up to touch the second storey of the house. Also much admired was a planting of leucadendrons including a flourishing row of '*Leucadendron argenteum*', set to shelter the swimming pool. Some attention was caused by a novel low-set electric fence round the rose garden, which set the visitors wondering whether it just might be treated with due deference by marauding opossums which are a problem.

WAIKATO

With only a limited number of meetings each year, often with speakers on specialised themes of gardening, inevitably some aspects seem to get overlooked. To try and rectify this at the May meeting seven members each gave short talks on a number of subjects. These ranged from carrots to gerberas, and it was obvious that this was a popular approach which it is hoped to repeat in the future.

Whatever our views on the use or misuse of therapeutants in horticulture the fact remains that it is difficult to manage without them. In June Mr K. Fuller of Auckland, gave a most instructive talk on pest and disease control, emphasising the need to first identify the problem and then to apply the correct remedy. The Waikato contains many notable and historic trees and for many years Miss P. Bates has devoted a great deal of time to recording them. In July she gave a most interesting talk on the results of her investigations and illustrated it with specimens and slides. Preparations for the forthcoming World Rose Convention in Hamilton in November are continuing at an ever increasing tempo. So far this year we have had a rather mild winter, and, as ever with

roses, rosarians are keeping their fingers crossed and hoping their timing for flowering will be right. The Convention is undoubtedly going to attract a lot of visitors to the district and arrangements by the various organisers are well in hand to cope with this influx. There has been a noticeable increase in the number of roses planted in the district in the past two seasons, and Waikato citizens have certainly become very rose conscious. It is sad to record the demise of an old horticultural organisation, but the Hamilton Horticultural Society was dissolved recently after being in recess for a number of years. Its material assets were distributed to various specialist societies and its cash in hand is eventually to be used in developing a horticultural area in the proposed cultural centre in Hamilton. A fund which was established in memory of the late Mr M. C. Gudex is to be used to buy books on horticulture which will be available through the Hamilton Library.

In October, on the 19th and 20th, the Horticulture Division of the Department of Agriculture in conjunction with the N.Z. Nurserymen's Association is holding a course for commercial nurserymen. It will be at the Ruakura Agricultural Research Centre and a wide range of subjects will be discussed. Over the past years the Waikato has become an important centre of commercial ornamental horticulture and there is every sign that this development will continue. One only has to look at the many new gardens around homes to realise the great potential that exists.

By the time these notes appear the World Rose Convention in Hamilton will have taken place, and if the amount of preparatory work is any indication it will have been a success. A Convention on this scale is a very large undertaking, but the necessary enthusiasm and facilities do obviously exist in the Waikato. Roses are always popular, and it is interesting to note that they do not seem to have periods when interest slackens only to revive later as with so many other flowers. Another flower in which interest is always sustained is the orchid, and this was the subject of a talk in August by Mr I. D. James, who is a well known grower in Hamilton. He has had considerable success in exhibiting orchids throughout the country, and such success is only achieved by a thorough knowledge of the requirements of these plants. As part of his talk he demonstrated how to divide and repot a *Cymbidium*. He also had flasks of seeds and seedlings to illustrate the techniques used in raising these plants. Meristem propagation, now widely used, will undoubtedly make some of the greatly improved modern cultivars available at a reason cost to growers. Before this method was evolved an outstanding new cultivar would be difficult to obtain and expensive for very many years until natural vegetative propagation produced enough plants.

At the September meeting a most interesting talk on Ivies (*Hedera* spp. and cultivars) was given by Mr J. B. Laurenson, N.D.H.(N.Z.), of Auckland. He had brought with him over seventy specimen plants and these naturally attracted a lot of attention. His collection is probably one of the most complete in existence, and certainly contains all those available in this part of the world. Whilst such large displays do involve the speaker in a lot of extra work they complement the talk in a way which creates even greater interest, as Mr Laurenson so ably showed.

Also at this meeting we had the pleasure of a visit from our former Secretary, Mrs D. Yendell, who was in Hamilton on leave with her husband, the N.Z. High Commissioner in Australia. Whilst obviously very busy there she is still maintaining her interest in horticulture and has made many improvements to her garden in Canberra.

In the Waikato we have had a mild, and recently rather wet, winter, and growth of plants has tended to be earlier than usual. There have been some

magnificent displays of flowering trees and shrubs with magnolias being especially good. Over the past decade or so a lot of trees and shrubs have been planted in this district and many of these are now reaching maturity and adding their beauty to the scene. The writer of these notes recently had the considerable pleasure of visiting the Daffodil Farm of Mr Phillips, of Otorohanga, and was shown many of the new cultivars in bloom. Mr Phillips is well known both in New Zealand and internationally as a grower and raiser of new cultivars of Narcissus, and many of his seedlings show very great promise. The advances made in developing Narcissus in the last half century are most impressive and with new colours, form and texture even better results are undoubtedly to come. Beside being of such beauty Narcissus are ideal garden plants and in most districts grow well.

Mr H. B. Redgrove, of Auckland, has been an authority on *Lilium* for a long time and his knowledge of this subject was shown in his talk at the October meeting. With excellent illustrations this was a most interesting and informative discourse on these delightful flowers.

At the last Dominion Conference a garden tour was discussed and the Waikato District Council was later asked to organize this. On Saturday and Sunday, October 16th and 17th this took place and a busload of members, mainly from Auckland and other northern North Island areas, participated. On Saturday the route led to the Te Awamutu Memorial Park, a delightfully peaceful and attractive area at the northern entrance to the town. From here Mrs P. Wilson's garden in the town was visited, where a large number of both rare and common plants thrive so well. Lunch was taken in the Memorial Park and after this the tour continued to the garden of Mrs I. H. Rogers at Hairini, where among other plants the Rhododendrons were particularly attractive. From here a return was made to Te Awamutu where the Rhododendron Show was visited. This was organised by a number of enthusiasts who have formed a Rhododendron Group within the Waikato District Council. It was a great success and the organisers are to be congratulated for their efforts in popularising these plants. The return to Hamilton was by way of Monavale and Cambridge. In the evening visitors were invited to an informal meeting where films were shown and a display of flowers staged.

Throughout Saturday the weather was fine, but regrettably on Sunday was overcast with rain towards the end of the tour. On Sunday morning the mature and well designed garden of Dr and Mrs E. T. Rogers in Hamilton, fronting the Waikato River, was visited. A short walk along the River bank led the party to the garden of Mr and Mrs W. M. Tudhope, with its large trees and peaceful surroundings. Both very pleasant and quiet gardens are rather surprisingly quite close to Victoria Street, Hamilton's main thoroughfare. A tour of Hamilton then followed, with lunch by Lake Rotoroa. After lunch a visit to Mr and Mrs C. Harvey showed what can be done in a relatively small garden by plant enthusiasts. From here the next visit was to the gardens of the Department of Agriculture's Soil Research Station, at Rukuhia, where there is a fine collection of Camellias and many other plants.

The tour was conducted throughout by Dr J. Parle and Miss P. Bates, who with our Secretary, Mrs L. M. Nicholson were also responsible for its organisation. Despite the deterioration of the weather towards the end it would seem that those taking part enjoyed themselves, and were able to meet members from other districts.

The Waikato District Council wishes to express its sincere thanks to all those who made available their gardens for this tour.

WHANGAREI

JUNE MEETING—PRESENTATION: Our chairman was pleased to have the opportunity of presenting two young men, Messrs N. Cooke and H. Hutchinson, with their Junior Certificates for the National Diploma of Horticulture.

JULY MEETING—We were privileged to have, as our speaker for the evening, Mrs Muriel Fisher, of Auckland, who recently received the Loder Cup for her outstanding contribution to the growing and popularising of our native plants. Mrs Fisher began her address by quoting the words of the late Dr. Leonard Cockayne, "For diversity of form and beauty of foliage the vegetation of New Zealand is unexcelled."

Expanding this theme Mrs Fisher drew attention to many unusual characteristics shown by our plants. Very often quite insignificant plants with tiny flowers, produced showy fruits, as in the many species of *Coprosma*. Others again became giants in size compared with their European relatives. Our Mahoe belonging to the Violet family was of tree size, with very small flowers, but masses of purple fruits. This great diversity of form and beauty of fruit, flower and foliage made our plants unique. Nevertheless, no flora in the world had been so badly treated and so ruthlessly destroyed.

Great diversity of form was very plainly shown in the members of the carrot family. The New Zealand members of this family, especially the *Aciphylla* commonly known as Spear grasses or Spaniards, which have stiff sharp pointed leaves often strongly coloured, are totally unlike their introduced relatives, carrot and parsley. Another common habit of many of our plants is the divaricating form, with many rigid twigs or stems interlacing to make rounded or pillar shaped plants, as in *Coprosma rhamnoides*, an otherwise uninteresting shrub, which in season redeems itself by producing masses of shining red fruits. An almost leafless shrub with the divaricating form, common on dry stony areas especially on the eastern side of the South Island—the Mata-gourie, *Discaria toumatou*, was used by the Maoris for tattooing—the spiny off shoots providing the instrument. To illustrate the ability of our plants to adapt themselves to widely differing conditions of soil and climate she gave the example from her own garden of *Carex trifida* from the sub-Antarctic Campbell Islands growing with our own Poor Knights lily, *Xeronema*.

Also succeeding in her garden were the several species of Southern Beeches, *Nothofagus spp.* A great area of the beech forests of inland Otago and Southland up to 2500ft. in the mountains was due to be milled for paper pulp unless pressure could be exerted to preserve even a part of it. With its destruction a great loss of bird life would follow. Also all the lesser growth, mosses and ferns would disappear. People often pleaded for the preservation of the great trees Kauri, Rimu, Totara and such, but did not realise the necessity of the lesser growth forms in preserving nature's balance as well as in preventing erosion.

As an illustration of polymorphy or diversity of form the genus *Hebe* provided many quite astonishing examples, especially in size and colour of leaf, as well as in growth form and size. Some, like the Whipcords, had leaves so minute as to resemble small conifers, others were often ball like and shrubby, or almost tree-like as one from the Chatham Islands known formerly as *Hebe gigantea*. This diversity of size and form together with their great tolerance of varying conditions makes them especially suited to garden culture. Many were also showy in flower, especially *Hebe hulkeana* from Marlborough, with a two foot inflorescence of lilac flowers.

For pebble gardens many of our grasses, especially those of tussock form, were extremely attractive. *Stipa arundinacea*, a very handsome tall and nodding

grass from the Mahia peninsula, was a most desirable plant. Plants of striking form such as the Lancewood in the juvenile state could be useful in the pebble garden. The lance leaf form persisted for about sixteen years and then assumed an umbrella-like head, with shorter more rounded leaves. Another shrub with a distinct form in the juvenile—the Kaikomako, *Pennantia corymbosa*, was a slender stemmed, rather interlaced and straggling bush in its youth, but eventually became a small tree with marbled leaves and masses of small white flowers, sometimes called New Zealand May.

The *Olearia* genus, Tree Daisies, had a great many members with attractive leaves and some with showy flowers. Some members of this tribe have found favour in English gardens because of their hardiness. For leaf colour as well as for their growth forms, Mrs Fisher listed *Pseudowintera colorata*, its leaves splashed with red, and often used as a hedge further south; and the tree-like *Dracophyllum traversii*, the southern version of our Nei-nei or Spiderwood. Both are outstanding plants and should be seen more often in gardens.

Ferns were also an important constituent of the garden. Shade, moisture and protection from wind were the main essentials for success. A fine healthy specimen of the Prince of Wales feather fern grown in Auckland by Mrs Fisher demonstrated her skill in growing this difficult fern away from its natural habitat.

Mrs Fisher then showed us colour slides of her garden in Auckland, and some from other notable growers of native plants. Here we saw many of the species already described and were especially impressed by the pictures of the handsome *Celmisias*, *Gentians*, *Hebes* and other alpine flowers, but perhaps best of all a fine slide of *Myosotis eximia*, a forget-me-not, not blue as you may have expected, but cream in colour. Slides were shown of Woodside Gorge that Mecca for all Marlborough botanists, its limestone cliffs a veritable treasure house of extra beautiful plants, the lovely Marlborough bluebell, a handsome yellow buttercup, *Ranunculus lobulatus*, *Hebe hulkeana* and the splendid rock daisy, *Pachystegia insignis*.

AUGUST.—Mr Errol Butcher, N.D.H., Director of Parks and Reserves for the city, invited us to inspect the conservatory and glasshouses and to see the newly installed lighting arrangements. These were of considerable benefit to viewers, and enabled us to see the many lovely plants to advantage, and to appreciate the great improvement that has been made since their establishment.

The working area adjacent was used for our meeting and all the gardener's wants were displayed—pots, potting mixes, peat, manures, compost, sprays and insecticides, plus all essential tools.

Light was one of the factors governing the growth and health of plants, and the amount and intensity varied greatly, some requiring almost full shade, others more light, but few would tolerate direct sunlight, hence the need for shading the glasshouses.

Temperature must also be considered. Nearly all indoor plants needed an even temperature with no extremes between day and night. Draughts should be avoided and care taken in choosing the best position—not near fire or radiator nor in direct sunlight.

Watering called for considerable skill and attention. More plants were killed by over-watering than most other faults. The type of pot made some difference. Clay pots were porous, and breathed, so lost water more easily. Plastic pots were more retentive of moisture and did not grow algae, but in general their merits did not greatly differ. No pots should be stood in water, as the bottom part would become soggy and cold and cause roots to rot. A safer way was to plunge pots in sphagnum moss, water the moss and leave till it

became dry. The container would need to be of some depth to accommodate the pots, and a sufficient quantity of moss. A metal tray would hold any surplus moisture and so prevent damage. Watering could then be considerably reduced and plants safely left for even fairly long periods, especially in winter. In summer water would need to be given more frequently.

Mr Butcher then showed some colour slides of the Parks and Reserves under his care, together with a review of the work in hand for their improvement.

Perhaps most beautiful of all our parks is the Raumanga Falls reserve. The stream bed with massive rocky bastions, the deep swimming pools between the cascades and lovely falls make this an idyllic spot on a hot summer's day. With a little improvement in access, nothing else man-made could add to this gem of woodland and water.

Display: Spring flowers were predominant on the August table, with Azaleas, Rhododendrons and Magnolias in variety, besides the later-flowering Camellias.

SEPTEMBER MEETING.—Mr P. Williams of Kaikohe, who has been a noted gardener and grower of Water Lilies for many years, gave us a very useful and lucid account of the methods used in the growing of these beautiful plants.

With a love of gardening inherited from his mother his first water garden was made for her special pleasure. A pool 29ft. by 8ft. and in the course of its construction and planting a great deal was learnt by him and his brother. Several visits abroad, the first to America in 1957, enabled him to see, and to choose an extensive range of water plants suitable for conditions in New Zealand. His brother Murray now owned a very large nursery in Eskdale, Hawkes Bay, devoted entirely to water plants and fish associated with them.

Mr Williams said no great skill was required in the construction of a lily pool or water garden. Dig out a hole of the size and shape required preferably with curving sides—and line with concrete four inches thick. Elaborate boxing was not necessary, but the pool should give a depth of water twenty-one inches when finished. Boxes of tanalised timber 12" x 12" x 6" deep would then be covered by fifteen to eighteen inches of water, a depth sufficient for any water lily, though some would grow in much less. Where lesser depth is required the boxes could be raised on stones. Nail boxes could be used, but tanalised timber would not harm plants or fish. The boxes would last two years, and could then be replaced. To fill the boxes use good loam mixed with a handful of Blood and Bone or well rotted animal manure and top off with sand or pebbles. Mr Williams said that methods of planting and division varied with the several types of plants which he called Hardies, Tropicals, Miniatures, Stars and Lotus.

The more commonly grown Hardies have a long rhizome, rather fleshy, which may be divided during July, August and September. They must be planted in the corner of the box, with the rhizome stretching diagonally across the box, so that it gets maximum manure.

The Tropicals have a bulb-like root and must be planted in the middle of the box, one inch below soil, which should have some bone meal added. Tropicals are all scented, and in flower stand about a foot above water level, and so are easily distinguished from other kinds. They are the only kind to have blue or purple flowers. The pool near the Auckland Winter Gardens has some of the Tropicals. They should have only one bulb to a box and bloom when the water reaches 70°F. about February is their peak.

Miniatures may be grown in a small pool or three or four in a 6ft. bath. They come in a wide range of colours and have flowers two inches across.

The Star lilies are the hardy type of Tropical and always have flowers. The fact that some bloom at night is an added attraction. They come in many colours, are scented and will grow anywhere in New Zealand.

Lotus is the class with the largest blooms up to 1ft. across. They are single or double, in pink, yellow and red. They must be planted in shallow water and in a **round** container, as roots are long and break if they touch a corner.

The surroundings of a pool (which should always be in full sun) may be beautified with a variety of moisture loving plants which can greatly enhance its attraction. Japanese *Iris kaempferi* are particularly good in such a situation, as well as many others. These associate well with Astilbes which bloom at the same time and the colours of both blend very well. Various rushes and grasses give contrasts in form and colour. A pool so planted is not only an attraction in itself but merges with and adds interest and charm to the garden.

Mr Williams then showed us colour slides of many water gardens and pools, as well as close-ups of the many types of lillies and individual blooms.

OCTOBER.—The speaker for the evening was Mr L. McConnell of the Lands and Survey Department, newly appointed Ranger of the National Parks and Reserves of the Northland area. Formerly Ranger in charge of the Fiordland National Park, which has an area of three million acres, it was Mr McConnell's duty to supervise the making of tracks, building of huts, and to preserve the beauty of the area whilst helping the public to enjoy it. Fiordland has an annual rainfall of 400 inches, and is one of the wettest temperate zones in the world, a factor to be reckoned with.

Slides of Te Wae Wae Bay, where both toheroa and whitebait abound, commenced a tour of the Waiau River. Whitebait may be lost if Lake Manapouri is raised by the damming of the Waiau. Beautiful slides were shown in autumn colour, snow-capped mountains, lakes, and extensive beech forests, the trees and vegetation being quite distinct from that in Northland. At Lake Hauroko there was a good stand of rimu, quite a lot larger in size than those of the North Island.

Mr McConnell then spoke of the problem caused by the large deer population. Even though as many as a hundred a day are being shot, mostly from helicopters, it is unlikely that they will be completely eradicated. The venison is exported and each carcase is worth thirty to forty dollars.

A slide of Lake Monowai showed what an eyesore was caused by raising it only seven feet, with tree stumps of all shapes and sizes disfiguring the landscape.

Three hundred miles of bush tracks have been constructed, some rising to three and four thousand feet, and giving access to the Park Board huts, which provide overnight stopping places for trampers and others at 50 cents a night. The huts usually have twelve to fourteen bunks, an axe and a basin. Fog is heavy in the valleys so direction standards are placed at regular intervals to guide trampers. Vegetation in the valleys is mostly tussock, but the Southern rata grows abundantly among sheer rock. This rata, with brilliant red flowers, was formerly known as *Metrosiderous lucida*, but is now classified as *M. umbellata*.

The final slides showed Dusky Sound at the head of which is Supper Cove, and water forty fathoms deep. In the Sounds there are 200 miles of calm water and good fishing. A large hapuka was the focal point of one slide. Picnic areas are being provided and more huts constructed in this area, Mr McConnell said, was unspoiled and little changed since Captain Cook visited it in 1773.

Horticulturalist requests information from interested persons on possible supervisory positions (or other) becoming available shortly in the Nursery Trade. Twenty-one years experience in nursery and cut flower trades. South Auckland, Bay of Plenty areas preferred but not essential.

Reply please to Mr R. D. McNabb, 7 Elizabeth Avenue, Te Awamutu.

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