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NEW ZEALAND PLANTS AND GARDENS

The Official Journal of the Royal New Zealand Institute of Horticulture (Inc.)

Volume V. *JUNE, 1963.* *No. III*

NOISE

When a new garden is being considered, many things are brought into perspective. There will be visual and other sensory considerations. Not the least of these will be the desire for a retreat from the outside world where one can relax and be at peace, though these need not necessarily be leisurely, for there can be no idleness in a garden.

One of the essentials of peace and relaxation is the absence of violent noise. The twittering of birds, the humming of bees and the buzz of the cicada are all part of the natural sounds of a garden. So, also, can be the distant crowing of cocks and the clucking of hens and other sounds we associate with a rural atmosphere. But the constant roar of passing road traffic, the screeching of brakes and the sounding of motor horns are raucous disturbances to all who wish to escape from the noise of an over mechanised age. Add to these the presence of a railway line in the near distance and anyone who is aiming to make his garden a 'haunt of ancient peace' has to do something about it.

My home lies not far from a busy main road and also the main Wellington-Auckland railway line. Until recently huge specimens of *Cupressus macrocarpa* were growing along the roadway frontage and a long belt of equally tall trees were growing between my garden and the railway. We were hardly aware of passing traffic or rail cars. For various unavoidable reasons these conifers had to be removed. Then, for for the first time, we became aware of the nearness of the railway and the constant noise of passing road traffic.

This experience brought home one very important aspect of planting viz. the value of certain evergreens for deadening noise. Light foliaged evergreens are practically useless for such a purpose, and conifers of a dense habit of growth are undoubtedly the most effective. *Cupressus macrocarpa* and its golden form are admirable, so long as they are kept well trimmed and not allowed to get out of hand and become a nuisance and a possible threat to overhead power wires. Most of the *Chamaecyparis* and *Thuja* are suitable and a double staggered row arranged for foliage contrast will be a thing of beauty and an effective barrier against noise. It is worth thinking about.

G. A. R. PHILLIPS,
Editor.

THE LODER CUP AWARD 1962

Amid acclamation, on Friday 19th April, the Loder Cup award for 1962 was made to Mr Bernard Teague, of Wairoa. When presenting the Cup, Mr A. M. W. Greig, Chairman of the Loder Cup Committee, stated that the award was an honour, not only to Mr Teague, but to the community. It is awarded annually to any person or organisation who had stimulated interest in or has worked for the preservation of our native flora. The cup was donated originally by Mr Gerald Loder, who became later Lord Wakehurst. Among those present were Mr J. L. Living, President of the R.N.Z.I.H., and Mrs Living, Mrs Teague, Mrs Greig, Mr R. C. Nelson, Dominion President of the Royal Forest and Bird Protection Society.

When congratulating Mr Teague, Mr Nelson read the citation presented by the Royal Forest and Bird Protection Society. Bernard Teague was born at Feilding in 1903, and has been interested in nature protection from his early youth. He settled at Wairoa 26 years ago and explored the Urewera forest, then known to a small number of Maoris, but now widely known due to Mr Teague's writings and illustrated lectures. Following a Government aerial survey he located three hitherto unknown lagoons, named at his suggestion Lakes Ruapanu, Puhoe and the Arawa Tarns.

An energetic advocate for the creation of the Urewera National Park, Mr Teague has since pressed for the preservation of forest in the catchment of Ruakituri, a tributary of the Wairoa River, 37,000 acres of which recently became part of the National Park. Mr Teague is a member of the Urewera National Park Board, Chairman of the Wairoa Section and member of the National Council of the Royal Forest and Bird Protection Society of New Zealand, Fellow of the Royal New Zealand Institute of Horticulture Inc. and a member of the New Zealand Alpine Club.

Much of Mr Teague's life has been devoted to foster the interest in and evaluation of our native bush flora. He has spent much time in exploring the more remote regions of the country and endeavouring in many ways to imbue his fellow men with the idea of the preservation of such regions as a national asset, thereby making a notable contribution to the New Zealand scene. In reply Mr. Teague stressed the value of the unceasing work of the Royal Forest and Bird Protection Society, and the part it was playing in the preservation of the beauties of nature.

PERMANENT PLANTING.

TREES THAT REQUIRE LITTLE PRUNING.

DOUGLAS ELLIOTT (New Plymouth).

The lush growth we find in so many parts of New Zealand has its disadvantages in town gardens. The quick growers have to be cut back, sometimes each year, either because they are growing too big or because they are getting thin and leggy as a prelude to becoming so unsightly that we feel we can't stand them any longer. *Buddleia davidii* in its many varieties is an example.

It is bad enough to have to spend so much time and energy on this annual pruning, but another drawback is that the amputated plants look ugly during the next few months while they are healing their wounds and making new growth. In spite of this, quick growing shrubs and trees are invaluable, especially in the new garden, where shelter is urgently needed. Some of them are short-lived and may be used as fillers between slow growers, with the intention of removing them, without too many regrets, when they have served their purpose if they have not already died by then. This is the kind of service such plants serve in nature, sheltering the slower and more permanent plants that will take over when the quick ones die down. The colourful brooms, *Cytisus scoparius* and its varieties, are examples of such fillers.

But it is important, if we are to have permanent gardens which require a minimum of labour, that some of the slow growers should be planted. In other words, we should not be lured into using only quick growers simply because they are quick, and often very beautiful and give us a fully grown garden in about five years. The basic plants in the design should be those that will either grow comparatively slowly or else mature at a reasonable size.

Some of the conifers, such as *Cedrus atlantica* 'Glauca' grow so slowly that we do not need to worry about their maturing into giants. Most of these slow growing but potential giants may be kept within bounds by infrequent light pruning which, if carefully done, is imperceptible. If we did not plant this type of tree, which would grow too big if we let it, our gardens would be very much the poorer.

Some of the big trees are, I think, actually improved by being kept smaller, even when they are thereby given a different character. I have in mind two such different ones as *Magnolia campbellii* and *Dacrydium cupressinum,* the rimu. The only specimen I know of the *Magnolia* that has been left untrimmed is an enormous tree about 30 feet high with a spread of perhaps 40 feet. No small garden could accommodate such a monster. Even in a large garden a tree of this size may lose some of its effect when flowering because the flowers are thinly spread on the thinly spread branches. The most attractive *M. campbellii* I have seen is very much smaller with a clean trunk instead of low-spreading branches, such a trunk having the advantage

in a small garden of leaving space for shrubs and perennials. The top has been pruned so that it is round and compact with the result that when it is in flower the display is much more solid. And, more important, as a tree about 15 feet high it can be grown in the average garden.

The rimu in its untamed state can, after many years, become far too big for the average garden. But sensible pruning will keep it to almost any size you choose and the growth will be more compact and, possibly, more attractive than when it is not trimmed.

When you are about to prune conifers to prevent their becoming giants, choose your weapons according to the effect you want. Hedge shears may be used when the plant is to be trained to a thickly-matted mass of small branches in a formal shape such as we too often see in parks. The much better effect both for the eye of the beholder and the health of the plant is achieved by the use of secateurs. Take thought as you make each cut; see that you leave no stubs of stems sticking out above a bud or branchlet. Make sure the bud or branchlet points the way that will help to retain the natural shape of the plant. Above all, don't without reason, remove the leader. Often you may have to remove rival leaders. Here again *Cedrus atlantica* 'Glauca' may be taken as an example. In its first years it often produces a group of shoots in a ring at the top of the plant which, if not competing for leadership, will at least check the growth of the leader. They will also grow bigger than some of the lower branches and spoil the shape of the tree, which should be conical—wide at the base and tapering evenly to the top.

Such branches need shortening and the leader may need staking to straighten it. This cedar, in common with many other conifers not grown from seed, nearly always needs staking to keep it straight when it is young. This is because the shoot used in the graft or the cutting is always necessarily a side shoot that lacks the qualities of leadership. Only after several years of training does it stand upright of its own accord.

Fortunately there are several small trees that we can grow without having to indulge in much pruning. Here are a few that come to mind:

Cercis siliquastrum. This is slow enough to pass as a shrub during its first 8 to 10 years. But the lower branches may be trimmed to give it a trunk. It flowers profusely in spring on the leafless branches. The flowers are pea-shaped and rosy purple. In mild districts the leaves start to appear before the last blossoms fall. Its popular name of Judas Tree is derived from the legend that it was the tree from which Judas hanged himself after the betrayal of Jesus.

Flowering apples. One of the oldest and still one of the most beautiful is *Malus floribunda* which bears in spring masses of red buds that open into white flowers. A hybrid from it called 'Arnoldiana'

has larger buds and a more graceful habit. Many other lovely varieties are obtainable. Although some have the ability to grow 20 to 30 feet high, they are easy to keep smaller by pruning.

Magnolias. Some of the Asiatic species and their hybrids may easily be kept under control. Examples are *soulangeana* and its form 'Lennei', both with a touch of purple on the back of the petals. *M. denudata,* the perfect pure white and fragrant Yulan, grows slowly and will give many years of beauty without the touch of secateurs.

Nyssa sylvatica is a deciduous tree that will grow 100 feet high in its native swamps in Eastern North America, but I have seen quite old specimens in gardens that are slow growing and not more than 10 feet high. The branches are strangely horizontal and very close together, making it an impossible tree for small boys to climb. This tree is grown mainly for its very vivid autumn colouring.

Sophora, the kowhai, is variable. It sometimes grows far too big for the city garden, but I see many about New Plymouth that are just the right size without any trimming. As to which species they belong to, I am still in doubt, perhaps even more so after consulting such works as Cheeseman's *Manual* and Allan's *Flora.* I still believe there is some haziness about their classification.

Pittosporum eugenioides is an attractive native known as tarata and lemonwood. It is useful because it is evergreen and also because the lemon-scented leaves are a fresh rather light green that gives a pleasing contrast to the many darger greens. It is quick growing when young but slows down in early middle age.

Styrax obassia and *S. japonica* are deciduous. Bean says of the former: 'This is one of the most beautiful and striking even of Japanese flowering trees.' It has large leaves and fragrant pure white flowers that hang beneath the branches. *S. japonica* is smaller in every way.

Halesia monticola, the Mountain Snowdrop Tree, is recorded as reaching a height of 80 to 100 feet in the wild state but is normally a small tree in gardens. It bears masses of dainty white 'snowdrops' in the late spring. *H. carolina,* the original Snowdrop Tree or Silverbell Tree, is usually more of a shrub than a tree. Here again Bean is very enthusiastic and says that it is one of the most beautiful flowering trees introduced from North America.

THE CHEESEMAN MEMORIAL SHOW, 1962

M. C. GUDEX (Hamilton)

(We are indebted to "The Waikato Times" for permission to print this report).

The 22nd Cheeseman Memorial Show of native plants, held recently in Auckland, rivalled its predecessors in honouring the late T. F. Cheeseman, who had been curator of the Auckland Museum for half

a century and had written that excellent reference book, *Manual of the New Zealand Flora.*

With more space than ever before available in the museum, it was possible to set out the exhibits to greater advantage and to display our flora in art, in science and in education.

Samples of the famous 1769 engravings, commissioned and paid for by Joseph Banks, appeared in all their beauty. Let us hope that some day the whole series will be available in book form for students and all who love our native plants.

There was a section devoted to flower arrangements of our native plants. Some were on the heroic scale; others were small and dainty. They were staged by the Catholic Women's League, the Garden Circle of the Lyceum Club and a number of private individuals. They included flowers of *Clematis,* kowhai, kaka-beak, northern white rata, native daphne (*Pimelea longifolia*), mairehau, bush lawyer, cabbage-tree, flax, and rewarewa, fruits and berries of supple-jack, titoki, pigeonwood, bush lawyer, kiekie, *Astelia,* mangrove, kauri, and foliage of a host of plants. Many of these appeared in other groups such as: Trees for the Farm; Trees for City Gardens; Trees for Birds; Maori Food Plants.

To prove that the organisers had cast their net widely we have only to state that collections of living plants had been sent by the Botany Departments of Otago and Canterbury, the Botany Division of the D.S.I.R., Lincoln, the Christchurch Botanic Gardens, the Levin Native Flora Club, the National Park Board (mainly showing the alpine flora of the Tongariro National Park), Mount Albert Research Station, Messrs. Duncan and Davies, Ltd., New Plymouth, the Parks Department of Auckland City Council, and Auckland Botanical Society.

Mr. and Mrs. J. Cuming displayed the flora of the Taupo district, three ladies the flora of Northland, Mrs M. Ringer the plants of Waiuku Dunes, Mrs J. Barr, mosses.

Mention must be made of a giant model representing the structure of nucleic acid, on a scale ten million times life size. Much interest, too, was taken in the collections of podocarps from many part of the world, displayed by Dr. Rattenbury and Mr. Quinn, and in the maps and tables showing their distribution and history in the various geological periods.

Last, but far from least, was the display staged by the sixth form pupils of Fairfield College, Hamilton. This included several very rare species whose existence is threatened by the draining of Moanatuatua Bog, near Ohaupo. It is to be hoped that part of that great swamp will be reserved as a wilderness area.

Some of the plants used by the Maori for food were nikau, cabbage-tree, kiekie, bracken, mamaku (black tree-fern), raupo, and the fruits of hinau, tawa, white pine (kahikatea) and *Astelia* (the terrestrial, flax-like form with stiff clubs of succulent berries). The karaka also was eaten, but only after the kernels had been boiled.

In different sections there were series of hybrids in such genera as *Coprosma, Myrtus, Pseudopanax* and *Neopanax* (the lancewoods and fivefingers), *Melicope, Plagianthus* (lacebark).

Just as interesting and just as puzzling was a series of twiggy, much-branched and twisting shrubs from several genera. It is literally true that by their fruits ye shall know them — for little help is afforded by leaves and habit of growth. Flowers, naturally, are of great assistance in identification, but they last for only a few days while some fruits, especially of *Coprosma,* take a complete year to ripen and fall.

The equivalent of the nightingales' tongues and the oysters from Britain that figured on the menu of a Roman Emperor's feast were provided by the Botany Departments of Otago and Canterbury in their separate displays.

Some of these were *Cotula potentillina, Hebe townsonii, H. canterburiensis, H. raoulii* and *H. pinguifolia, Myosotis eximia, Astelia cockaynei* and *A. linearis, Bulbinella* (Maori onion) and series of *Celmisia, Euphrasia* (eyebright), gentians, *Helichrysum, Ranunculus* (buttercups), leafless brooms, *Aciphylla* (Spaniard or bayonet plant), *Danthonia* (including snow-grasses), *Libertia* (native iris), and edelweiss.

In another exhibit it was pointed out that Banks Peninsula is the southern limit on the East Coast for karaka, nikau, akeake, titoki, pigeonwood and kawakawa.

Besides the *Danthonia* species, there were many other grasses including tussock-forming *Poa* and *Festuca,* and the karetu or Scented Grass (*Hierochloe redolens*).

School Collections

The school collections of pressed, mounted and labelled specimens of native plants were the best seen yet at the Cheeseman Memorial Shows. The judges, Mrs. P. Hynes and Miss M. Crookes, said that several of the collections were equal to those in most public and private herbaria, and were really professional.

Paintings, sketches, posters, living specimens and large series of decorated saucers, vases, bowls and miniature gardens showed that many primary and post-primary pupils are encouraged by their teachers to take an interest in our native flora. One poster summed up the matter very aptly: Our flora is unique; preserve it.

PLANT HUNTING IN NEPAL

W. R. SYKES (Christchurch).

A large area of West and Central Nepal was until recently completely unknown to science. Thus it was that in 1952 and 1954 the British Museum (Natural History) and the Royal Horticultural Society combined to send expeditions, consisting mainly of members of their staffs to this part of the country. The British Museum desired all forms of plant life for the herbarium, from algae to angiosperms, and tropical to alpine plants. The R.H.S. on the other hand, was only interested in plants of horticultural interest, which are, of course, mostly confined to the flowering plants.

Thus, as the R.H.S. representative, I was especially concerned with the collecting of living plant material, although I did collect many herbarium specimens as well. My two botanical colleagues also collected for both Institutions, since we were apart for much of the time. In order to obtain suitable material of living plants, we often had to wait until the autumn, when we were able to dig up dormant crowns and gather seeds. This necessiated another journey to areas already worked previously, desirable plants being noted and marked, if necessary, whilst they were in flower.

The region which we worked was situated round the Dhaulagiri and Annapurna ranges, as well as far to the north and west. The great peaks of the main range of the Himalaya act as a barrier to the torrental monsoon rains which fall from June to October. Thus we found that the high country which lay behind the big mountains was comparatively dry, and consequently supported a poorer flora, although this was itself quite distinct. The great rivers of Nepal, such as the Kali Gandaki, between Dhaulagiri and Annapurna, cut the country in two and since they form very deep valleys, give rise to sub-tropical and alpine plants occurring within a few miles of each other. Between this sub-tropical flora at altitudes of 2,000 or 3,000 feet above sea level and the alpine flora which begins at 11,000 to 13,500 feet there is the temperate zone. This large region may be sub-divided, according to climatic factors, and there is great variation according to aspect of slope. Thus, the alpine flora would often appear several thousand feet lower on the north and west-facing slopes. Except where village cultivation had caused vegetational changes, the sub-tropical and temperate regions were largely forest-covered, while the alpine areas were grass or scrub-covered, with screes, moraines and cliff faces supporting distinct floras.

In Britain the accent is mostly on hardy plants these days, since so many of the big private gardens with large heated glasshouses are a thing of the past. Thus, I was mainly concerned with introducing alpine and cool temperate species from above about 9,000 feet. We found flowering plants up to 18,000 feet or more, and at such altitudes the opposite kind of difficulty is met with in cultivation, namely that

the climate is too genial. New Zealand gardeners could cultivate many of the beautiful warm temperate shrubs that will not thrive over most of Britain. A good example is *Dendrobenthamia capitata* (syn. *Cornus capitata)* a common Himalayan shrub or small tree at 7,000 feet in fairly open country. It is only hardy in the extreme south-west of Britain, but seems to thrive over much of New Zealand, even in such places as Queenstown. Conversely, the majority of the alpine monsoon herbs such as primulas, *Meconopsis,* gentians, etc., are difficult to grow in many parts of this country, although I have been agreeably surprised to hear of a number of successes in the South Island at least.

Our plan of campaign was to set up a base camp at a conveniently situated small town, and then split into parties in order to work our different areas. This avoided needless duplication. We each had one or two especially trained Sikkimese people to help with the collecting, cooking and general camp routine. With the assistance of local porters to carry the loads, we set out to the collecting areas. The local people were mostly members of the Ghurka race, but in the high country, especially towards the Tibetan border, we met numbers of cheerful Bhotiya nomads, a people very much resembling the Tibetans themselves. In addition to relying on local porters to move our equipment, we also had to buy our main provisions in the scattered villages. Rice in the lowlands and potatoes, wheat or barley flour in the colder regions formed our chief fare. The herds of goats, cows, water buffaloes and yaks provided dairy products. These animals have an important effect on the vegetation and forests are often destroyed indirectly by them. In the alpine meadows the herds come up in the monsoon and the grazing encampments soon become a quagmire of mud, but I found that a distinct spring flora flourished before they arrived, and such beautiful primulas as the buttercup-yellow *P. strumosa* and a large purple-flowered *nivalis* named *P. macrophylla* were really abundant in such places only.

We made a preliminary excursion in April before going out for the main trip in the monsoon period of June to August. The snows gradually recede in the spring from the late winter levels of 8,000 to 9,000 feet. The sub-tropical forests of predominantly evergreen species supported a rich epiphytic flora in the wetter regions. Spring-flowering orchids were a feature and such well-known genera as *Vanda, Cymbidium* and *Coelogyne* were common in the *Castanopsis indica, Schima wallichii* forest. *Coelogyne cristata* grew at rather higher altitudes than the others and covered mossy boulders and tree trunks with its scented white flowers. Such orchids must surely be hardy in parts of New Zealand! In similar country south of the Annapurna Range we recorded further west than was previously known, the tall tree fern *Cyathula spinulosa.* A very pretty little shrub called *Dichroa febrifuga* with porcelain blue fruits grew in damp ravines along with the orchids and tree ferns. *Myrsine semiserrata* with pretty purple fruits also liked such habitats, but *Osbeckia stellata,* a pink-flowered member of the *Melastoma* family, flourished in summer and drier places. It was often

found in company with the lowland *Berberis asiatica* between 3,000 and 4,000 feet, and where the ground was relatively open *Polygonum capitatum* would be seen creeping around on the red lateritic soil. This *Polygonum* is hardy over much of New Zealand to the point of being a nuisance, but I did record it on sheltered slopes up to 7,000 feet, so that our stock may be descended from a higher altitude collecting. *Luculia gratissima,* a well-known shrub with fragrant pink flowers, had a similar upper altitudinal limit, but was much commoner lower down, where it made a fine splash of colour after the soaking monsoon rains had ceased.

In West Nepal and some of the drier regions to the East there were large forests of 'Sal' *(Shorea robusta),* a valuable timber tree, and *Pinus roxburghii* (syn. *P. longifolia* the lowland pine). These forests were very dry for part of the year and had little in the way of undergrowth or epiphytes; a monsoon herb flora being the chief accompaniment. A common white-flowered shrub was *Adhatoda vasica,* a member of the *Acanthaceae* which preferred the hotter valleys. Near the rivers a richer flora often occurred, and *Vitex negundo* seemed to be a common plant, unlike *Holmskioldia sanguinea* the 'Chinese Hat' shrub, whose peculiar scarlet flowers were rarely seen. In such areas I occasionally also found *Gloriosa superba,* a well-known climbing plant of the lily family, whose cultivation is possible outside in parts of this country, I am told. Certainly, *Vitex negundo* seems easy to grow in warmer districts. The main centres of habitation are found in the sub-tropical lowlands and it was only in such places that one found plants which were there solely for their ornamental value. At 2,500 feet in the very hot Kali Gandaki valley I found a beautiful tree of *Cassia fistula* the 'Indian Laburnum' in ful bloom and it was a most memorable sight. Much commoner and seemingly hardier was the frangipani *Plumiera rubra* 'Forma Acutifolia', one fine tree being beside a ridge-top temple at 4,500 feet. The purple-flowered *Bauhinia purpurea* and *Lagerstroemia flos-reginae* made a gay show in the early summer, and the vivid red of *Erythrina arborescens* vied with the poinsettias *(Euphorbia pulcherrima)* later in the season. The last-named, along with other American natives such as orange and yellow *Tagetes* and *Asclepias curassavica,* magenta *Mirabilis jalapa,* the 'Marvel of Peru', and variously coloured zinnias, had often run wild in these sub-tropical valleys. Common indigenous herbaceous plants included such attractive subjects as yellow *Lindenbergia grandiflora* and *Hedychium* species, blue and violet *Torenia pedunculata,* vivid blue *Daedalacanthus nervosus* (syn. *Eranthemum pulchellum)* and the pure white trumpet-shaped *Lilium wallichianum.*

Above the sub-tropical valleys *Rhododendron arboreum* and *Quercus incana* were often dominant on the hillsides. The blood-red trusses of flowers of the former made a wonderful sight in the clear spring air, with the snow-capped heights of the Himalayan giants behind them. This red form of *Rhododendron arboreum* grew over an unusually wide range of altitudes from just over 3,000 feet to about 10,000 feet,

where I often saw it in company with *Quercus semecarpifolia,* a handsome oak with rusty-brown undersurfaces to the leaves. Above this altitude the pink form of the *Rhododendron* took over and flourished up to about 12,500 feet. There is only one other plant with a similar huge range that immediately comes to mind and that is the creeping little blue pea, *Parochetus communis.* I found this in wet grassy flushes at 3,000 feet and it cropped up at intervals in similar places until it was found growing on open grassy hillsides at 13,000 feet. The flowers were a little larger and a little deeper blue in the latter habitat but these are probably not stable characters. Such a range of altitude illustrates the desirability of selecting the most suitable localities when collecting material for introduction to cultivation. On hillsides between 5,000 feet and 7,500 feet, lacking the high forest cover, a number of handsome shrubs and herbaceous plants grow. Many of these would seem eminently suitable for cultivation over much of New Zealand, and indeed such species as *Pieris formosa, Indigofera gerardiana,* as well as the already mentioned cornel, are quite well-known here. Where a ravine occurs one found trees such as the Nepalese alder and the handsome 'Indian Horse Chestnut', *Aesculus indica.* Species of *Philadelphus, Deutzia, Viburnum, Rosa, Hydrangea, Mahonia* and many other well-known genera were also represented. However, I have never seen the beautiful scarlet-flowered *Woodfordia fruticosa* in cultivation. This is a member of the *Lythraceae,* and preferred the hotter and drier parts of this warm temperate region. *Polygala arillata* is a handsome shrub with yellow flowers and purple fruits and was found in moister places around 7,000 feet, and I should very much like to see it growing here. I am not sure whether or not *Incarvillea arguta* (more commonly known as *Amphicome diffusa)* is in New Zealand, but we brought it back to England where it flowered in a cool glasshouse. It grew on steep riverside cliffs around 7,000 feet and its pink tubular flowers hung down over the raging torrent below.

If we visited a village in this region we were almost sure to encounter *Duchesnea indica,* the weedy yellow-flowered strawberry, growing on the stone terrace walls and around the houses. Much more desirable but less common was the pretty little pinkish *Begonia picta,* and sometimes *Reinwardtia trigyna* flourished, but often was nibbled back by domesticated ungulates, so that the yellow flowers were only just able to peep out from between the stones. Two very dainty little gesnerads which grew on rock faces around 7,000 feet, often among dripping moss and tiny urticads such as *Elatostemma* species, were the purple *Chirita biflora* and violet *Platystemma violoides.* These would be very difficult plants to introduce because of the fragile nature of the rootstocks, whilst seed is not at all easy to find. I cannot leave this section without mentioning *Lilium nepalense,* an attractive large-flowered species with green and purple trumpets. It preferred the grassy slopes around the forest edge at 7,000 to 8,000 feet, and is thus a better proposition for New Zealand gardens than most British ones. The temperate forest region was very attractive in the Himalayan-spring,

and conditions were so much more pleasant then than later in the season, when the incessant rains brought forth swarms of midges and leeches. Spring is predominantly dry and it is the flowering period of the majority of the woody plants.

In the cooler forests one finds more deciduous trees and shrubs, although the Himalayan oaks are all evergreen and the dark *Tsuga dumosa* and tree-like *Juniperus wallichiana* add a sombre touch which is repeated by *Abies spectabilis* (syn. *A. webbiana)* higher up at 11,500 to 12,500 feet. In the drier country in the north-west of Nepal, *Pinus chylla* (syn. *P. excelsa)* is much commoner and *Picea smithiana* was only found there. Other smaller junipers flourished and were intermingled with the gold of *Piptanthus laburnifolius* (syn. *P. nepalensis)* in the moister areas and *Caragana gerardiana* in dry country. The well-known garden favourite *Clematis montana* showed its pure white flowers very well on the deep green of the junipers, and the creamy-white *Rosa sericea,* a Himalayan version of the four-petalled Chinese *R. omeiensis,* was also attractive. Among flowering trees species of maple and mountain ash were common, a white-fruited *Sorbus,* possibly *S. cashmeriana,* being noteworthy. *Betula utilis* usually formed the tree line at 13,000 to 13,500 feet and its white trunk make it a very desirable species. The dominant *Rhododendron* was now the mauve *R. campanulatum,* and this carried on for a little way above the birch, sometimes getting more stunted until it was little taller than the dwarf alpine *R. lepidotum,* which often took over at this stage. However, the latter's magenta flowers could also be seen as low as 11,000 feet, unlike the cream-coloured *R. hypenarthum* which never entered the forest and went up to 16,500 feet, where it was down to about 6 inches or so in height. The alpine scrub contained a number of other shrubs, and species of *Potentilla, Rosa, Berberis, Lonicera* and *Spiraea* were often abundant. In the dry Tibetan-like country of the upper Kali valley one of my colleagues collected the pretty blue, spiny *Sophora moorcroftiana* a very difficult plant to cultivate. In a similar area the most desirable and little-known blue *Ceratostigma ulicinum* was found, a species which, unfortunately, we failed to introduce to cultivation.

The herbaceous plants of the alpine meadows are among the glories of the Himalaya, and this flora is at its best just before and during the monsoon. Some of the species such as the almost ubiquitous *Primula denticulata,* are found in the upper forest as well, while such plants as *Polygonum amplexicaule, Corydalis chaerophylla* and some of the large senecios and aconitums are almost confined to it. *Thalictrum chelidonii* is a forest plant of the *Thalictrum dipterocarpum* affinity which I collected, but we failed to bring home the very desirable *Thalictrum reniforme.* Two very attractive little maidenhair ferns which I collected in this cool moist forest country were *Adiantum venustum* and *A. pedatum.* Both are hardy in Britain, and the latter is especially attractive because of the bronze young fronds in the spring. All such plants need the coolest place possible in New Zealand gardens, but it is sur-

prising what can be grown, even in the drier parts of the Dominion. One of our best discoveries, the fragrant blue and white little *Primula reidii* var. *williamsii,* grew on earth banks in and out of the forest. This is one of the section *Soldanelloidea,* with the typical nodding flowers of the commonly grown *P. nutans,* and seems to have become firmly established in cultivation in northern Britain. *Meconopsis* was another genus which occurred in the open parts of the upper forest and *Meconopsis napaulensis,* a tall rosy-red species was often found there, but the large yellow *M. regia,* sometimes 6 and 7 feet high in bloom, was mostly found on the open grasslands above. These monocarpic species have most attractive winter rosettes of great golden-hairy leaves, and I well remember my thrill at first seeing them just after the snows had melted around, and all the other plants apart from the purple flower heads of *Primula denticulata* were still dormant. Mr. L. H. J. Williams of the British Museum, who was our leader on both occasions, found that a very complicated situation existed on a few of the knife-edged ridges he visited just south of the Annapurna Range. Here it seems that *Meconopsis regia, M. napaulensis* and *M. paniculata* were all hybridising and producing a range of forms with varying leaf dissection and flower colour. Probably the best example was the bright red *M. regia,* collected and distributed under the number, S.S. and W. 8620. I need hardly add that this and other numbers will not come true from seed. Very different was the milky-blue *M. lyrata* which he found there, and the deep blue *M. bella* and *M. horridula* which we all found on screes and rock ledges high above the tree line.

The alpine meadows proper were found at altitudes varying from 11,000 to above 16,000 feet according to aspect and locality, and provided the most striking display of flowering plants, for in the rich humus of these areas such a plethora of good horticultural subjects flourished that I can mention only a few. In addition to the plants already mentioned some abundant species were yellow calthas and trollius, pink and white polygonums and anemones, white everlasting *Anaphalis,* red and yellow potentillas and geums (including a fine new scarlet form of *Geum elatum)* pink and blue geraniums, blue and purple aconitums, delphiniums, *Cyananthus* and gentians. The semi-parasitic genus *Pedicularis* has reached its highest development in the Himalaya seemingly, and species showed great variation in colour, form and height. Adaptation to grow in several different habitats was noted, but the alpine meadow was the favourite choice of these plants which are so difficult to domesticate. It was noticeable that yellow and white were dominant colours in the spring period, with members of the *Ranunculaceae* and some *Primula* species prominant. Late in the monsoon, blue and purple were the chief hues, with the familiar *Campanulaceae, Gentianaceae* and the ranunculaceous genera *Aconitum* and *Delphinium* providing most of the display.

I feel that one uses the word 'alpine plant' rather loosely in connection with the Himalaya, for to some people the words automatically

conjure visions of little mat-forming, cushioned and rosetted plants growing on open screes, cliff faces and almost inaccessible ledges. This is the natural home of so many European saxifrages, androsaces, potentillas, etc., and we found that in such habitats in the Himalaya these genera were also very well represented. The drier region towards the Tibetan border revealed the most beautiful silvery-leaved pink-flowered androsaces that I have ever seen. A number of *Primula* species were confined to such habitats, including *Primula concinna,* the tiniest species that I know, its flowers almost lost in cushions of dripping moss. I must not linger over such exquisite plants as *Paraquilegia grandiflora* with beautiful foliage and flowers, *Delphinium brunonianum* only a few inches high, and some of the cremanthodiums (a Sino-Himalayan genus of composites) because they have proved to be so intractable in cultivation, even in the Scottish Highlands. The finest gentian was *G. depressa,* with large squat trumpets of blue set among the neat rosettes of imbricated leaves, and standing the rigours of exposed slopes at 15,000 to 16,000 feet. The most unusual plant of the high shifting screes was the composite *Saussurea gossyphora* which flowered in the mist and rain of the late monsoon. Its great heads of flowers covered with a mass of cotton wool-like hairs would appear out of the gloom at 16,000 and 17,000 feet or even higher. A remarkable plant and like nearly all of the showy alpines was bee-pollinated, hence the holes present in the down.

The whole region above the tree line possessed a very different appearance after the monsoon in the late autumn, with nearly all the vegetation brown and dead above ground. Only the gentians and swertias and, to a lesser extent, those other blue and purple late-flowering alpines, the *Cyananthus* species, appeared to withstand the bitter frosts. Freezing temperatures occur for over seven months, but meanwhile a mantle of snow would soon cover the landscape as well. In the wonderfully crisp and clear air of the post-monsoon period breathtaking panoramas often presented themselves, and it was with reluctance that we left our collecting grounds for a look at that strange and beautiful city, Katmandu, before leaving Nepal and descending to the dusty plaints of India; from whence the live plants, carefully wrapped in moss and sometimes polythene, could be quickly despatched home by air.

SOME OLD GARDENING BOOKS

G. A. R. PHILLIPS (Paraparaumu).

As long ago as December, 1956, Mr A. W. Anderson wrote, for this Journal, a most interesting account of some of the old flower and plant books. I share with Mr Anderson a deep love for these old books, which possess a fascination that cannot be handed on in a facsimile edition. Valuable books cannot be regarded merely as possessions. They long out-live the span of human life. We must

look upon ourselves as being the fortunate, but only temporary custodians to care for them, and keep them in good order to hand on to the custody of the following generation.

The quaint verbiage of the old herbals of Gerard and John Parkinson, apothecary to Charles I, lend immense character to these classics of botanical literature. I recall taking from *Paradisi in Sole,* when I was writing my book on delphiniums over 30 years ago, a quotation whose quaintness has never failed to charm me — 'We call them in English larkes heeles, larkes spurres, larkes toes or clawes and munkeshoods'. The herbals provide one of the oldest forms of gardening literature, and Eleanor Sinclair Rohde's book on the old English herbals, although long out of print, may still be available through antiquarian book dealers. There is also an excellent facsimile reprint of Parkinson's *Paradisi in Sole,* published in 1904, but there is no substitute for the enjoyment of handling an original edition.

Gardening and botanical books reached a considerable height after colour was introduced late in the 18th century as a departure from the old wood cuts and engravings. The old colour books, the best of which have never been equalled as works of horticultural art, reached their zenith between the late 18th century and up to about 1840. The process was to print the outline from a botanical drawing and then fill in the colour of flower, foliage, etc. by hand. As would be expected there was a great variation in quality among these books, many of which were published in monthly parts and later bound into volumes.

Many of these old garden books were in the hands of practical gardeners, who could only afford a modest cloth binding. The well-to-do liked their libraries to be walled with half calf spines tooled with gold. These works of art demanded careful handling and, unless their custodian was a genuine reader and as much concerned with the contents as with the outside, or even more so, the display could be merely pretentious. This brings to mind an anecdote that has a bearing on this attitude towards books. It is said that Robert Burns, when waiting in the library of a Scottish nobleman, who had a beautiful collection but was not particularly well read, penned the following lines in the fly leaf of one of the volumes:

> As through and through the inspired page
> Ye maggots make your windings
> Respect his lordship's noble taste
> And spare the golden bindings.

One of the most famous of horticultural writers in the early 1800s was Robert Sweet (1782-1835). He gained his experience in gardening when he was assistant to Mr Stuart, head gardener to John Julius Angerstein, of Woodlands, Blackheath, a very keen plant collector.

In his conservatory Mr Angerstein cultivated many Australian plants which, at that time, were being introduced. It was from his experience with these plants that Sweet wrote his *Flora Australasica* where he writes 'many of the Woodlands specimens had attained a great size and grew as luxuriantly as in their native woods.' The custom then was to plant out under glass, but Sweet preferred pot culture. This book was published in 1827-28. I have seen a copy since I came to New Zealand. It is a thin 8vo volume containing 56 exquisite plates of Australian plants that had, at that time, flowered in Britain. Examples of many Australian genera can be found in the colour books of that period. It is interesting, but rather surprising to find that on 29th January, 1824, Sweet was brought before Mr Justice Best and a jury at the Old Bailey, London, on a charge of 'feloniously receiving on the 29th January, Seven Plants Value £7 and Seven Garden Pots valued sixpence, the Goods of our Lord the King, which on the night previous had been feloniously stolen from the Royal Gardens, Kew, he well knowing them to have been stolen.' The theft of anything over 12 pence in value was classed as Grand Larceny and was punishable by hanging. Sweet was in great peril. His written statement and denial were handed to the judge, wherein he expressed, in pathetic terms, the mental suffering he had undergone in consequence of the charge against him. But he had good friends, including the famous Piccadilly publisher, Mr Ridgeway, who spoke of his high character. Other famous horticulturists who testified as to his merits as a man, author, botanist and his honesty were George Loddiges, the famous nurseryman, Mr Joseph Knight, proprietor of the famous Chelsea Nurseries and Mr Anderson, curator of the Apothecaries' Garden at Chelsea. Although the Judge's summing up was against him, the jury returned a verdict of 'Not Guilty'. But this ordeal broke his health and affected his mind, which later failed him and he died on 20th January, 1835. Among my most treasured garden books are the first two volumes of Sweet's *British Flower Garden* (1825-26).

Early in the 19th century the art of flower painting became a most fashionable hobby for ladies. Girls of good families were taught how to paint or draw the flowers they had been studying, under the guidance of their governesses. Such was the popularity of gardening or botanical periodicals with illustrations in colour that some of the more accomplished lady amateur paintings of flora and fauna adopted the professional status and became teachers.

Francis Wheatley, famous for his *Cries of London,* married Clara Maria Leigh, who became a regular exhibitor at the Royal Academy. Although she covered a wide range of subjects, her fine water colour painting of paeonies in the Botanical Library of the Natural History Museum at South Kensington, are produced in the grand manner of her age and are among her best work. Mr B. Maund,

F.L.S. was a Bromsgrove man, with a profound knowledge of exotic plants. I have been told that he had a large family of daughters. In accordance with the fashion of the time the young ladies practiced the art of flower painting. In the preparation of his *Botanic Garden,* Maund kept the young ladies busy painting specimens he provided. This must have occupied a considerable time. The size of each volume was, if my memory serves me rightly, about 8" x 7" and the flower paintings were of equal size, four on a page, and totalling well over 2000 in the 16 volumes which also included one called *The Fruitist* and another, with small drawings and notes of many plants called *The Auctarium.* The quality of the coloured drawings varied. A set I used to possess had beautiful work throughout. But I have seen others with definitely inferior work. It is interesting to speculate that perhaps an elder daughter who took great pains with her work was responsible for the best reproductions, while a younger girl, who may have chafed under the work imposed upon her by her parent, did only what she had to do and soon tired of the work, hence the inferior result.

Mr Maund, in co-authorship with the Rev. J. S. Henslow M.A., F.L.S., produced 6 volumes of exquisite hand coloured drawings of plants under the title of *The Botanist.* I obtained a complete set many years ago, when prices were moderate, and had it rebound in a style in keeping with the excellence of its contents, where there is not a mark on the pages and the plates are as fresh as the day on which they were executed. This was published in 1825 and looking at random through vol. ii I find such familiar plants as *Anigozanthus mangelsii, Acacia longifolia, Telopea speciosissima, Epacris, Hovea, Kennedya, Pimelia* species, all well-known to Southern Hemisphere gardeners.

The greatest of all botanical works is Curtis's *Botanical Magazine,* first published in 1787 and continuing at the present day. The 'Botmag' as this work is known to many of those who subscribe to it, has maintained the highest possible quality in its production. The long line of artists who have been responsible for the plant portraits, all in true colour, is represented today by Britain's leading flower painters such as Lilian Snelling and Margaret Stones. William Curtis, the founder of the *Botanical Magazine,* was born at Alton in Hampshire in 1746 and at an early age displayed a taste for natural history. He was encouraged, in his early days by an employee at the Crown Inn, next door to his home, one Thomas Legg. Thomas Legg was illiterate and yet had gained a deep knowledge of plants, so deep in fact that he could name the flowers growing wild in the neighbourhood with ease. In 1771 William Hudson, the author of the well-known *Flora Anglica,* resigned his office of Demonstrator of Botany to the Apothecaries' Company at Chelsea. On the recommendation of Mr Alchorne, of the Mint, who had taken this office temporarily, Mr

Curtis, who had gained considerable repute as a botanist, was given the post. A famous holder of this office, Philip Miller, author of the *Gardener's Dictionary,* had found it 'more honourable than lucrative.'

Curtis's duties consisted of teaching the apprentices of the Apothecaries' Society the virtues of the medicinal plants in the Chelsea Gardens. He undertook these duties with great enthusiasm and ran a series of lectures on medical botany for his students. At Bermondsey he bought land and formed a botanic garden with Thomas White, brother of the Rev. Gilbert White, famous for his *Natural History of Selborne.* It was then that Curtis formed the idea of producing his *Flora Londinensis,* with which work he had the valuable co-operation of William Kilburn, one of the most talented artists of his day. After founding a further botanic garden at Lambeth Marsh, he founded one of greater acreage at Brompton, which he maintained until his death. At Lambeth Marsh, Curtis received donations of plants from Kew, Sir Joseph Banks, the Earl of Bute and many of the leading botanists of that time. The catalogue of plants, which ran into seven editions, first appeared in 1783. In it appeared descriptions of about 6000 plants. In order to deal with his increasing literary activities and horticultural demonstrations Curtis resigned his Chelsea post. His contributions to botanical literature were many, and it was from 1775 to 1798 that his beautifully illustrated *Flora Londinensis* appeared. But the support was insufficient to meet the costs of production of this magnificent work and it had to be discontinued long before completion. The number of copies sold did not exceed 300. It has, on a number of occasions, been puzzling why gardening periodicals, when written in good style and for the average keen gardener, of a fine format, well illustrated in colour have failed for lack of support. (William Robinson's magnificent *Flora and Silva,* published nearly 60 years ago, in monthly parts on handmade paper, Baskerville type, and two reproductions of flower paintings by the great artist Moon, with contributions by the great gardening authorities of that day, had to be discontinued, for lack of support, after its third year. Yet the cost of each part was only 2/6. It became obvious that all gardeners are not bibliophiles!)

The first numbers of the *Botanical Magazine* appeared on 1st February 1787 and Curtis issued it regularly to his death. From then onwards it has appeared regularly under the editorships of Dr. John Sims, Samuel Curtis, Sir W. J. Hooker, Sir J. D. Hooker, Sir W. Thiselton-Dyer, Sir D. Prain, Dr. O. Stapf, Sir A. W. Hill, A. D. Cotton and the late W. B. Turrill. This was the first of the illustrated botanical periodicals and is consequently the oldest in circulation. All the most noted naturalists of his day sought the friendship of William Curtis, including Sir Joseph Banks, the great botanist of Australasian flora. In his memoirs, Curtis writes 'I have no pretensions to be considered as a man of letters, or of great mental powers. A

consciousness of my inabilities makes me diffident, and produces in me a shyness, which some have been ready to construe into pride.' I have given rather more attention to Curtis's *Botanical Magazine* than to others because it is the oldest established of all such publications, and still maintains the highest standard.

The celebrated creator of the Crystal Palace, by some lauded as a work of wonder, by others dubbed a 'white elephant', Sir Joseph Paxton was undoubtedly a great landscape gardener, which is well borne out by the great gardens at Chatsworth, famous through the world. His contributions to horticultural literature consisted of being one of the four founders of the *Gardeners' Chronicle* and the author of many gardening books. His *Magazine of Gardening* is now a collector's piece. It was published from 1834 to 1849 and contained coloured illustrations, hand coloured in accord with contemporary custom, of a great variety of exotic plants, including many from the South Pacific countries.

The last personality I shall mention is George Glenny, well known for forty years as a horticultural writer of authority until his death in 1874. Sometimes you can pick up a book of Glenny's at quite a moderate price in English second-hand book shops. I have a copy of his *The Culture of Flowers and Plants,* published 1860, which cost less than £1 fourteen years ago. It is interesting to note how fuchsias and regal pelargoniums figure in these old flower books. Then they went out of fashion for over half-a-century, and now they are returning to favour. Glenny was a great gardener as well as a journalist and his success as an amateur exhibitor was considerable. Perhaps he is best remembered for his extensive set of 'Golden Rules' for gardeners. They contain a considerable amount of sound sense, as may be seen by the following taken at random: 'A hardy plant may come from a warm country, but a stove plant cannot come from a cold one.' 'Never grow a bad variety of anything, if you can help it. It takes the same room, and wants the same attention as a good one.' 'Never work with bad tools. The difference between the work done in a month would buy a set of new ones.' And so on.

These old coloured flower books are becoming more and more rare as the years pass. At one time you could buy them at reasonable prices. A complete Maund's *Botanic Garden* could be bought back in the '30s for £10. The present price is nearly six times as much and very difficult to find. One of the reasons for this scarcity has been the disgraceful custom of certain antique dealers buying up these old books when they were obtainable at reasonable prices, taking out the colour plates and framing in antique frames. The text, which did not interest them, was scrapped. Fortunately the prices that rule today cease to make this a profitable practice.

XVITH INTERNATIONAL HORTICULTURAL CONGRESS, BRUSSELS, AUGUST 31ST — SEPTEMBER 8TH, 1962.

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'The Council proposes, on the invitation from the U.S.A. delegation, to hold the next Congress in the last week of August or the first week of September, 1966, on the campus of the University of Maryland at College Park, Maryland, U.S.A.' With these closing words 900 horticulturists from some 60 countries bade farwell to Brussels and the XVIth International Horticultural Congress taking with them a wealth of knowledge and fresh inspiration, appreciation for the opportunity to renew former acquaintances and make new friendships, and a feeling of gratitude to the organisers of the extremely successful Brussels Congress and to the people of Belguim for the warmth of their welcome and the generosity of their hospitality.

The 1962 Brussels Congress was of special significance because almost one hundred years ago, in 1864, the first unofficial international horticultural congress, the Congress International d' Horticulture, was organised in Brussels by the 'Federation des Societes Horticoles de Belgique'. This congress which was attended by 485 members from 13 countries lasted for three days and was devoted entirely to horticultural topics. Further congresses followed — at Ghent in 1883 — a one day meeting organised by 'La Chamber Syndicate des Horticulteurs Belges' and attended by 750, and, in 1885 in Paris a two day congress organised by ' La Societe Nationale et Centrale d' Horticulture de France'. The official series of horticultural congresses commenced in 1889 with a further Paris congress and it may be of interest to note the dates and places of subsequent congresses prior to this year — Chicago 1893, Paris 1900, Paris 1905, Brussels 1910, Ghent 1913, Amsterdam 1923, Vienna 1927, London 1930, Paris 1932, Rome 1935, Berlin 1938, London 1952, The Hague 1955 and Nice 1958.

Most of the earlier congresses were organised by local organisations but as the congresses developed in size and extended their sphere of influence this arrangement obviously became impracticable. Shortly after the 1923 Congress an International Committee for Horticultural Congresses was formed and since 1958 the International Society for Horticultural Science has been the official body responsible for organising horticultural congresses and for acting as a permanent liaison between horticultural organisations throughout the world. There is certainly a tremendous amount of organisation necessary but only those who have had the privilege of attending congresses can fully appreciate the vast amount of work involved. To quote just one aspect of this work, at the congress in Brussels some 450 prepared papers which were to be presented were required to be in the hands of the seretariat beforehand. These papers were all summarised in three languages, published in a volume of 478 pages and presented to every delegate on the opening day of the congress!

BELGIUM, LAND OF CONGRESSES.

Belgium and in particular her capital, Brussels, due primarily to geographical situation, excellent facilities and a fine tradition for hospitality, have long been associated with the organisation of congresses covering many spheres of activity. Reaching a climax in 1958 — the year of the Brussels International Exhibition — 424 congresses were held in Brussels attended by 226.000 participants!

The 1962 Horticultural Congress assembled at the Congress Building, the Palais des Congres, a magnificent centre built at the time of the 1958 Exhibition. The interior arrangement of the seven-storey building enables meetings of all kinds to be organised simultaneously as an addition to a main hall with seating capacity for 1,400, there are smaller halls which can

accommodate respectively 300, 150, 75 and 35 people. As well as ten telephone lines, amenities include a public telephone, complete postal service, press facilities, an interior telephone system, travel agency, banking services and a tourist information bureau. An underground car park has room for 1,000 vehicles and a bar and restaurant are situated in the building. The main halls are equipped with simultaneous translation apparatus for six languages (English, French and German were used for the main Horticultural Congress sessions) and projectors and screens, record-players, blackboards, tape-recorders and other facilities of this nature are all readily available.

PROGRAMME.

The main scientific programme of the 1962 Horticultural Congress consisted of four separate parts:

1. The formal opening and closing sessions and four general lectures from distinguished horticulturists dealing with horticulture in its widest sense.

2. Sectional meetings which formed the framework of the Congress and which consisted mainly of papers presented by workers in the various fields of horticulture.

3. Group discussions which were devoted to more detailed discussion on specific subjects.

4. Meetings of the International Society for Horticultural Science dealing with questions of organisation and matters of special interest e.g. a joint I.S.H.S./F.A.O. meeting dealt with the significance of tropical horticulture in connection with human nutrition.

In addition to the scientific programme, a variety of excursions was arranged, social activities included a memorable banquet and members had the opportunity to attend a number of outstanding horticultural exhibitions during the week. A special programme of excursions and visits was arranged for ladies.

It will not be possible to give a detailed account of all these aspects but a few observations at random may be of interest.

OPENING AND CLOSING SESSIONS AND GENERAL LECTURES.

These functions which were held in the main hall were notable occasions and made one realise the significance of horticulture throughout the world. Flags of all represented countries arranged behind the main platform looked most impressive and with the simultaneous translation system in operation one was able to follow all speakers with little difficulty.

General lectures were as follows:

The Role of Horticulture in Science and Society. Professor H. B. Tukey Sr. (U.S.A.)

International Co-operation in the Field of Horticultural Research. Professor F. P. Pansiot. (F.A.O.)

The Economic Principle in Horticulture. Professor W. Busch (West Germany).

Scientific Research and Horticulture. Professor J. Bustarret. (France).

A resume of these lectures appeared in the *Book of Summaries* and they will of course appear in full with all other papers when the full proceedings are published. I should however like to quote a few significant extracts from Professor Tukey's address — Research is the critical search for knowledge. One sometimes hears the expression pure research, as though there was a form of research which is 'impure'. The real test of research is its quality. A fruit grower, a vegetable grower, a seedsman, or a florist who is diligently and self-critically seeking information is a useful research worker. There is no reason to exclude anyone from the field; in fact the more inclusive the word can be made, the better.

The widening gap that seems to have developed between traditional areas of biology and such other scientific disciplines as physics and chemistry is closed by horticultural science and the distinction between so-called basic research and applied research is lessened as it should be.

Because of the great achievements of specialisation and of basic research there has been a trend in some areas to support the basic disciplines at the expense of the broader scientific areas of the commodity and the whole plant. Thus departments of Horticulture have been done away with in some sections of America, and they have been replaced with a structure of basic sciences, as biochemistry, genetics, physics, and microbiology. 'I hope that I have sufficiently emphasised the importance of basic research so that I will not be misunderstood when I say that this is a grievous mistake to replace horticulture with basic disciplines. It has been tried before with serious repercussions.' Professor Tukey referred to the 'art and home side of horticulture' and the significance of the amateur gardener (an aspect which incidentally received prominence elsewhere at the Congress) — 'Gardening' he went on 'means health, stability and happiness. The twenty million gardens during World War II in America did more than produce food. The support which industry has given to the garden movement indicates the values it has found in gardening. The appointment of committees and commissions to promote better use of leisure time on the part of both rural and village people, is recognition of the trend. Botanic Gardens, Physics Gardens, Gardens for the Blind, gardening programmes on national television, gardening in the Junior High School and the Senior High School are all in this direction. There must be more emphasis on living and less on making a living. This is the field in which horticulturists could well afford to spend more of their time, energy and resources.'

EXCURSIONS AND VISITS.

Time was not spent entirely in the Congress House. Belgium has much to show both of horticultural and general interest and during the week an interesting programme of excursions was organised. The first general excursion was to Bruges, a fascinating historical city ofen referred to as the Venice of the North, where we were entertained to lunch in the ancient Gothic Town Hall. From Bruges we returned (13 coach loads!) via Maldegem for a visit to the famous nurseries of Deconinck-Dervaes where we appreciated not only the hospitality but also the opportunity to see a wide range of well-grown nursery stock, ornamental conifers, roses and the impressive entrance and display area being particularly prominent. From Maldegem we drove through the main begonia growing centres of Belguim and what an impressive sight! Acres and acres of tuberous begonias in full bloom to be lifted eventually for the sale of tubers. Begonias are of course to the Belgians what the tulips are to the Dutch and there is no doubt that the Belgian growers have mastered the art of begonia culture. Finally through the important plant nursery district of Wetteren and back to the hotels before dark.

The second general excursion was to see something of horticultural research in Belgium. In view of the large number involved members were asked to choose one centre from the following.

A. State Agronomic Institute and Agronomic Research Centre of Ghent.
B. Catholic University of Louvain — Agricultural Institute.
C. State Agricultural University and Agricultural Research Centre at Gembloux.

All three centres cover a wide range of activities and represent the highest level in hortivultural research and education providing degree courses and opportunities for fundamental and applied research. Fortunately personal references seemed to divide the members into approximately three equal parties and we dispersed on our selected visits—in my own case to Gembloux. Heavy rain unfortunately marred this one day and the University authorities had to

amend what had obviously been a carefully prepared programme. However in spite of the weather all appreciated the opportunity to see first-hand the work and organisation of this important centre. Courses of Gembloux and in fact at the other University Centres are of five years, two being devoted to general studies, (botany, zoology, chemistry etc.) and three years to a more specialised study of one of the following fields:

1. Agronomy of temperate regions
2. Agronomy of tropical regions
3. Forestry and Water.
4. Horticulture
5. Rural engineering.
6. Agricultural chemistry and industry.

During the limited time available it was possible only to get a glimpse of the various work in progress but with regard to facilities the realisation of the importance of fully-controlled growth rooms was apparent. These rooms were available to all sections needing them and horticulture, to the envy of many visitors, had nine such rooms under its control.

Belgian authorities have obviously realised the benefits to be gained from close association between research and teaching facilities and centres such as that at Gembloux have much to offer the student and research worker.

We called en route back to Brussels at a vineyard at Hoeilaart to see grapes under glass and also of unusual interest to myself after several years in New Zealand large commercial glasshouses of peaches presumably making a profit!

EXHIBITION.

This survey would not be complete without a brief reference to the National Horticultural Exhibition which was held during Congress week at the Palais du Centenaire, the location of the 1958 World Exhibition. The Horticultural Exhibition which formed only part of a vast Agricultural Show was devoted to a colourful array of Belgium's horticultural produce, fruit, vegetables, flowers and nursery products including quantities of unusual crops such as chicory. The Show was a co-operative effort by various interested organisations and what I feel contributed greatly to the appeal of the layout was the fact that the whole was designed by one architect. Each exhibit formed part of an overall plan and the result was effective and harmonious.

Also during the week an interesting collection of historical garden literature was on display in the Albert 1st Library.

CONCLUSION.

The week was indeed a full one, the programme carefully planned and efficiently organised. Full credit must be given to those responsible for the organisation, in particular the Organising Committee under President F. Lievens, the President and Hon. Secretary of the International Society for Horticultural Science, Professor A. Lecrenier and Dr. G. de Bakker respectively and the Belgian Government from which the Congress obviously received generous support and encouragement.

Congresses of this nature are of immense benefit to those able to participate and to horticulture in general. Today when the affairs and policies of any one country so quickly and vitally affect those of others it is more than ever essential that there should be a free exchange of ideas between those working in related spheres of interest. Horticultural Congresses under the auspices of the International Society for Horticultural Science are an excellent way of ensuring this exchange in the field of horticulture.

And so with thanks to Brussels for a job well done we can look forward to 1966 and Maryland and, for those who like to plan really well ahead, Israel 1970!

REPORT ON TOWN AND COUNTRY PLANNING ACT AMENDMENT.

J. G. SHORT.

This matter arose from the remit of North Taranaki District Council which was passed at Dominion Conference in February this year. The remit reads 'That Dominion Conference be asked to consider ways and means of informing and encouraging local bodies, contractors, builders etc., on the importance of preserving at least a few of the finest specimens of trees and shrubs that often exist, particularly when sub-dividing the older estates for building purposes.'

In discussing this matter and the subsequent action taken by Dominion Council in circulating Municipal Associations etc. the suggestion was made that amendment of the Town and Country Planning Act of New Zealand might be necessary to give support for the preservation of trees.

The relevant Act for England has been examined, and with it a study made of a model form of a Tree Preservation Order under that Act. It appeared at first that we would be helped by seeking further legislation for New Zealand in the making of orders for the preservation of trees, under the category of it being 'expedient in the interests of amenity.'

From discussion with the Regional Planning Authority and others it has now become clear that we have sufficient power under Town and Country Planning Regulations 1960 Ordinance VII; Amenities. It has also been stated that Planners generally would welcome more use being made of this ordnance, and have to this end recently circulated the Wellington District Council with a request for an up to date list of Historic and Noteworthy Trees.

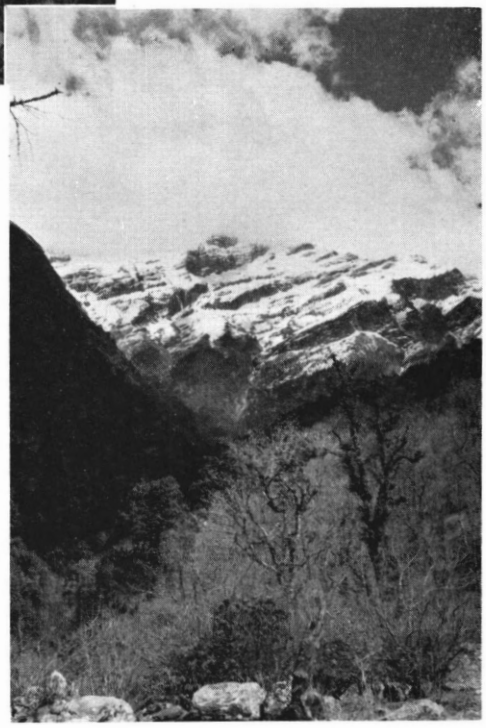
It would seem that while we have understood the scope of this request concerning Historic Trees, we can in general interpret more widely than we have done, the category Noteworthy Trees. This should include 'trees of civic and scenic value; clusters of trees and woodland belts that serve as a screen, a shelter belt, or being close to highways, public footpaths, railways or rivers and are thus of public interest. Woodland (bush) may have intrinsic beauty and contribute to the special character of a landscape, it may have scientific or recreational interest close to existing or proposed built up areas. It may have value because of the relief or variety it introduces into the landscape. Conspicuousness is an important element.' Such trees, when listed with the local planning authority will be preserved so that they will not be wilfully destroyed or removed.

When a subdivision takes place, the local authority takes a look over the project and discusses such matters as land stabilisation, shelter and landscape possibilities, and it is at this point that trees which have been listed as amenities of one kind or another can be pointed out.

Plant Hunting in Nepal.
Meconopsis regia at
13,000 feet.

(See Page 103)

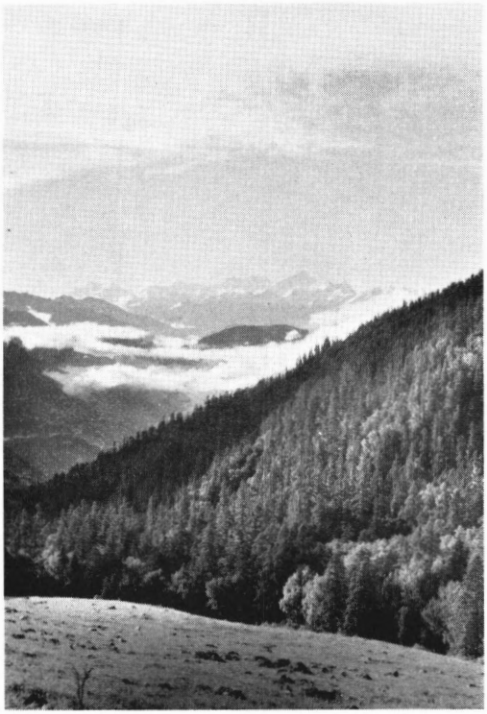
(Photograph—W. R. Sykes)



Plant Hunting in Nepal.
The Chakure ridge which the
Expedition crossed in 1952.

(See Page 98)

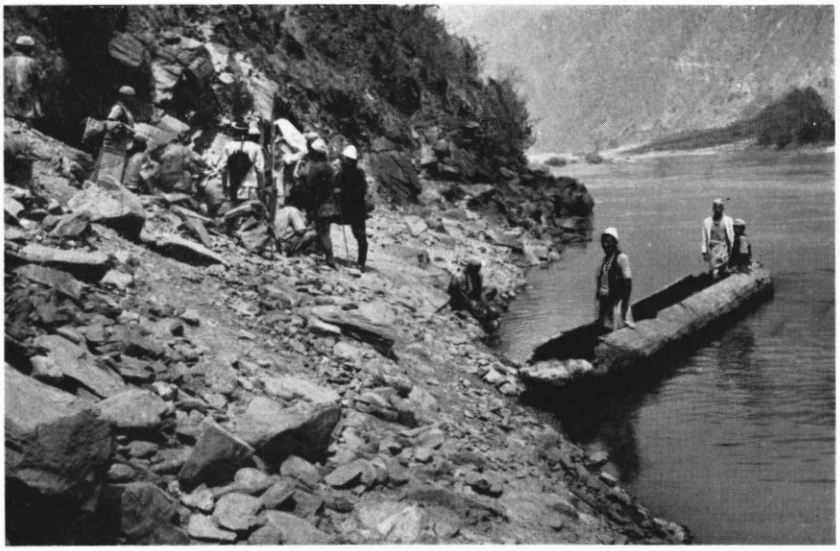
(Photograph—W. R. Sykes)



Plant Hunting in Nepal. Alpine Meadow and Abies dominated forest with the western part of the Dhaulagiri Range behind.

(See Page 98)

(Photograph—W. R. Sykes)



Plant Hunting in Nepal. The ferry across the Karnali River in West Nepal.

(See Page 100)

(Photograph—W. R. Sykes)

Cercis siliquastrum. (See Page 94).

(Photograph—Douglas Elliott)

Coprosma robusta 'Williamsii'. The typical C. robusta stipules may be seen quite clearly. (See Page 121)

(Photograph—L. J. Metcalf)

We are assured that many battles will have to be fought; some are lost but more and more will be won with the assistance of authentic and adequate descriptive lists of trees that we wish to see preserved.

There is a growing public concern for, and interest in, the subject, and we can be sure of the support of planning authorities both at the government and at local level.

This report recommends that District Councils take action along the lines of the following three points as the best way to further the subject of North Taranaki District Council's remit.

1. Lists of trees and groups of trees that qualify as amenities should be prepared and submitted to the relevant authority.

2. A bulletin describing the scope of the subject of trees in civic and regional planning should be produced, with suggested trees for the region, for localities and for the purposes of roadside, civic and other planting.

3. Education of the general public in the value of the right tree in the right place, should be a continuing concern of District Councils.

In addition, it should be stated that a bulletin giving lists of suitable trees for locality and region would be of assistance in Town and Country Planning where provision is already made in planning for screening industrial zones and individual factories from residential areas and for other sites that are being planned for and that are suitable for tree planting.

Wellington District Council has a remit coming forward urging the Government that they appoint landscape architects, and while the need for such is evident in roading and other state enterprises it should, we hope, have Dominion Council support. Skilled and gifted men in this profession are required to help to interpret form in this field in the New Zealand scene, if we are to overcome some of the pitfalls of the too sentimental or haphazard approach to tree planting and tree preservation.

REPORT OF THE EXAMINING BOARD.

On behalf of the Examining Board I have pleasure in submitting the following Report for 1962.

(1) **Meetings:** The Board met on four occasions during the year with an average attendance of 9 members.

(2) **Syllabus of Examinations:** The Examinations Syllabus of the Institute includes the following Diplomas and Certificates:

(a) National Diploma in Horticulture.
(b) National Diploma in Fruit Culture.
(c) National Diploma in Apiculture.
(d) Certificate in Vegetable Culture.
(e) Certificate in School Gardening.
(f) Seedsman's Certificate.

(3) **Honorary Diplomas in Apiculture:** Several applications for Honorary Diplomas in Apiculture have been received and are now being considered jointly by the National Beekeepers' Association and the Examining Board. Applications for Honorary Diplomas may be received up to 8th September, 1963. Honorary Diplomas may be granted to persons not less than 40 years of age with not less than 20 years experience in beekeeping.

(4) **Applications for Registration for examinations:** During the year applications were accepted from new candidates for the following examinations:

		1961
National Diploma in Horticulture	22	(26)
National Diploma in Fruit Culture	2	(3)
Certificate in Vegetable Culture	2	(1)
Certificate in School Gardening	—	(4)
Seedsman's Certificate	—	(1)
National Diploma in Apiculture	1	(—)

(5) **1962 Examinations:**

(1) **Results** — these are appended separately.

(2) **Statistics** — the following tables will be of interest; 1961 corresponding figures are shown in parenthesis.

N.D.H. Examination:	**Junior**	**Intermediate**	**Diploma**
Number of Entries	(56) 47	(21) 31	(17) 9
Number of Passes	(36) 28	(17) 24	(12) 7
Percentage of Passes	(85.7) 100	(—) 100	(50) 66.6
Average marks (Passes only)	(65.3) 73	(—) 61.8	(61.6) 59

N.D.F.C. Examination:			
Number of Entries	(7) 2	(—) 4	(4) 3
Number of Passes	(6) 2	(—) 4	(2) 2
Percentage of Passes	(85.7) 100	(—) 100	(50) 66.6
Average marks (Passes only)	(65.3) 73	(—) 61.8	(61.6) 59

Extra Certificate —

It is pleasing to report that **one** holder of the N.D.H. sat for and successfully obtained the Extra Certificate in "The Flower Garden in all its Aspects."

Certificate in School Gardening:

Number of Entries	(2) 2
Number of Passes	(2) 2
Percentage of Passes	(100) 100
Average marks (Passes only)	(87) 70

(6) The following candidates completed sections of the examinations this year, 1962 —

NATIONAL DIPLOMA IN HORTICULTURE:

Junior Examination:

W. C. Cook (Wellington).
P. S. Thompson (Christchurch).
L. F. Whittle (New Plymouth).

Intermediate Examination:

J. D. Butler (Wellington).
G. L. K. Jones (Christchurch).
W. H. McLeary (Invercargill).
C. R. Pugh (Timaru).

Diploma (final):

A. D. Jellyman (New Plymouth).

Extra Certificate (N.D.H.):

E. J. Martin (Hamilton).

NATIONAL DIPLOMA IN FRUIT CULTURE.

Intermediate Examination:

I. M. Wells (Nelson).

(7) **Oral and Practical Examination:** The 1962 examinations were held in Christchurch for all candidates. Facilities available were again of high standard, and with the excellent co-operation and assistance from the Director of Reserves and his staff at Christchurch, the examinations were efficiently handled. The Canterbury District Council assisted again with catering on the days of the examination and with offering billets to visiting candidates, required to remain overnight in Christchurch. The Board expresses its sincere appreciation to all who assisted in the conduct of these examinations.

Statistics for the Oral and Practical examinations are as follows:

	N.D.H.			N.D.F.C.		SCH. GARDEN.
	I	II	III	II	III	
Number of Entries -	14	7	3	1	1	1
Number of Passes -	8	6	2	1	1	1

The Board is giving special consideration to the position of candidates (school teachers) for the Certificate in School Gardening Oral and Practical examination, in view of their practical difficulty in attending such examinations in the month of November.

(8) **Diaries:** The Board has re-considered the procedure for candidates submitting their work diaries and, as from 1963, candidates will be required to produce their diaries for the current year to the examiners for inspection at the time of the Oral and Practical Examinations. The Examinations Regulations will be amended accordingly at first opportunity.

(9) **Examination Fees payable by candidates:** These have now been reviewed and the following new scale adopted by the Dominion Council, with effect as from 1st January, 1963. Old rates are shown in parenthesis:

(A) **Registration Fee,** payable once on application for registration for any Diploma or Certificate, 20/-.

Note: This will not affect present registered Candidates, but only those applying for registration on and after 1st January, 1963.

(B) **Examination Fees** — payable each year at the time of entry for examination.

(a) National Diploma in Horticulture,
National Diploma in Fruit Culture,
National Diploma in Apiculture.

(i) Junior examination - -	12/6 per subject	(10/6)
(ii) Intermediate examination	15/- per subject	(10/6)
(iii) Diploma examination -	20/- per subject	(10/6)

(b) Certificate in Vegetable Culture:

For subjects Nos. (1) to (5) inclusive - - - -	12/6 per subject	(10/-)
For subject No. (6) - - -	20/-	(20/-)

(c) Certificate in School Gardening:

For all subjects - - - -	12/6 per subject	(10/6)

(d) Seedsman's Certificate:

For whole examination -	£2/2/-	(£2/2/-)
or alternatively, for each part if not entering for the whole examination - - - -	£1/1/-	(£1/1/-)

(10) **Public Service Commission:** The Public Service Commission informed the Dominion Council that the three National Diplomas of the Institute now qualified for recognition, within the Public Service, for the awarding of a cash grant on completion of the Diploma.

(11) **Remits from 1962 Annual Dominion Conference, affecting examinations:**
The decisions of the Board on those Remits which were referred to it from the 1962 Dominion Conference are set out in the Annual Report of the Dominion Council.

(12) **Personal:** It is with sincere regret that the Board records the passing of two members during the year, namely, Mr. John Houston, O.B.E., and Mr. W. K. Dallas. Both had served on the Board for many years and their passing has taken from the Board two very able members of wide knowledge and experience.

(13) **Acknowledgements:**

The Examining Board acknowledges with sincere thanks the help and assistance received from all who have been associated with the conduct of the examinations this year.

(a) The panel of examiners.

(b) The Christchurch City Council Parks and Reserves Department.

(c) Honorary supervisors at centres for written examinations.

(d) The Canterbury District Council for assistance with Oral and Practical examination.

(e) The Director of Horticulture and Officers of the Horticulture Division.

(f) The National Beekeepers' Association of New Zealand Inc., for their collaboration and help in matters relating to the National Diploma in Apiculture.

On behalf of the Examining Board,

H. D. GORDON,
Chairman.

1962 EXAMINATIONS.

The results of this year's examinations conducted by the Royal New Zealand Institute of Horticulture in Horticulture, Fruit Culture, Vegetable Culture, School Gardening and Certificate for Seedsman, both written and practical, have been released. The oral and practical examinations were conducted at Christchurch which is now the permanent examination centre for all candidates in the oral and practical examinations.

A total of 56 candidates presented themselves for examination and the percentage of passes obtained was 73%.

The coveted Cockayne Memorial Medal for the candidate completing the Diploma in Horticulture and gaining the highest average marks in the final stage of the examination was awarded to A. D. Jellyman, of New Plymouth; the J. A. Campbell Memorial Prize for the candidate gaining the highest average marks in the Intermediate section of the examination was awarded to C. R. Pugh (Timaru); the Junior Memorial Prize for the candidate gaining the highest marks in the Oral and Practical Stage 1 examination was awarded to W. J. Scadden, of Christchurch; there was no award of the David Tannock Memorial Prize.

The subjects in which passes have been gained by candidates are indicated by code numbers as follows:—

Bookkeeping (2), horticultural botany (3), plant protection stage 1 (4), oral and practical stage 1 (5), principles of botanical classification (6), horticulture stage 1 (7), special subject (8), oral and practical stage 2 (9), horticulture stage 2 (10), plant protection stage 2 (11), oral and practical stage 3 (12), thesis (13), horticultural economics (14), fruit culture stage 1 (15), fruit culture stage 2 (16), extra certificate (17). Subject to confirmation by notice posted to candidates.

AUCKLAND:

Buchanan, B. L. - - 6,
Chapple, D. L. - - 4, 5,
Latimer, E. H. - - 3, 4,
Price, R. - - - - 4,

CHRISTCHURCH:

Aitken, N. A. - - 6,
Ballagh, M. L. - - 5,
Boffa, F. D. - - - 9,
Boon, B. D. - - - 3, 5,
Gill, R. C. - - - - 2, 4,
Hollows, G. M. - - 4,
Hughes, D. F. - - - 5,
Jones, G. L. K. - - 6, 7, 8, 9
Kinvig, D. J. - - - 2,
Millichamp, R. F. - 11, 12,
Mulholland, R. I. - 12,
Scaddon, W. J. - - 5,
Thompson, P. S. - - 2, 6,
Thomson, J. M. - - 5,

DUNEDIN:

Jackson, R. P. - - 3,
Scherp, L. A. - - - 8, 10,

GISBORNE:

Troy, T. P. - - - - - 13,

HAMILTON:

Devlin, P. J. - - - - 5, 7,
Mander, G. D. - - 6, 8,
Martin, E. J. - - - 17,
Pick, K. J. - - - 7,

INVERCARGILL:

McLeary, W. H. - - 2, 7, 8, 9

KAIKOHE:

Lees, J. A. - - - - - 2,

LEVIN:

Foxton, G. - - - - 3,
Van der Mespel, - - 12,

NAPIER:

Jackson, G. C. - - 10, 13,

NELSON:

Wells, I. M. - - - 7, 9, 15

NEW PLYMOUTH:

Howell, I. H. - - - 2, 3,
Jellyman, A. D. - - 13,
Rumbal, J. P. - - - 2, 3, 5,
Whittle, L. F. - - - 4, 8,

PALMERSTON NORTH:

Baker, L. - - - - 9,
Ryan, H. H. G. - - 8,

TIMARU:

Pugh, C. R. - - - 6, 7, 8, 9

WELLINGTON:

Butler, J. D. - - - 8, 9,
Cook, W. C. - - - 4,
Carter, A. B. - - - 7,
Cundy, J. P. - - - 3,
Harris, R. G. - - - 5,
Lokum, L. - - - - 4,

NOTES ON SOME CULTIVARS OF NEW ZEALAND PLANTS

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

The New Zealand flora is rich in fine foliage plants and amongst them *Pseudopanax discolor* is one of the best. This handsome shrub is found growing in shrublands and lowland forests from the vicinity of Kaitaia to the Coromandel Peninsula. In the wild it is a much branched shrub up to 15 feet tall, but in cultivation seldom exceeds 4 to 6 feet. The leaves are 3-5 foliolate on long slender petioles; the leaflets being obovate to elliptic-cuneate in shape and sharply serrate. Generally the leaves and young stems are bronzy or yellow-green in colour.

For some years an outstanding purplish-bronze form of this plant has been in cultivation in the Christchurch Botanic Gardens and as

it is so superior to other forms of the species it is desirable to distinguish it with a cultivar name; the name 'Rangitira' being proposed.

Pseudopanax discolor (Kirk) Harms 'Rangitira'. Habit and dimensions as for species. Young branchlets and petioles bronze; leaves deep purplish-bronze throughout the year and changing to a deep, almost old bronze in winter.

On account of its compact habit *Pseudopanax discolor* 'Rangitira' is an ideal shrub for the small garden. It is quite hardy in frosts of up to 10 degrees if grown in a well drained soil but with heavier frosts some damage to the soft tips may occur.

Coprosma robusta 'Williamsii variegata'. This is a very attractive shrub with a semi-pendulous habit and growing 3-4 feet high. The leaves are $3\frac{1}{4}$-$4\frac{1}{8}$ inches long by 1-$1\frac{3}{8}$ inches wide, elliptic to elliptic-oblong to broad-ovate, usually acute. The lamina is broadly margined creamy-white, the centre variegated dark green, pale grey-green and creamy-green.

This *Coprosma* has been grown in gardens for many years under the name of *Coprosma williamsii* (Duncan & Davies, Nurs., Cat., C. 1930) or more recently as *C. williamsii variegata* or *C. williamsii* 'variegata'. However, there is no species named *C. williamsii* and so its exact position has always been doubtful. According to Harrison (*Handbook of Trees and Shrubs for the Southern Hemisphere*) it is said to bear the name of Bishop Williams but it has not been possible to confirm this.

In 1962 two recently obtained plants of this cultivar flowered in the Christchurch Botanic Gardens and it was determined as being a variety of the koramu, *Coprosma robusta* Raoul. It is a male plant although odd plants produce occasional female inflorescences. Therefore, under Article 15 of the *International Code of Nomenclature for Cultivated Plants* the oldest epithet *'williamsii'* becomes the cultivar name for this plant, and should be enclosed in single quotation marks. The correct name then becomes, *Coprosma robusta* Raoul 'Williamsii'. (*C. williamsii variegata* Hort., *C. williamsii* 'Variegata').

Hebe 'Hagleyensis' is a beautiful hybrid raised in the Christchurch Botanic Gardens by Mr W. B. Brockie who used to be in charge of the New Zealand section. It was grown as a seedling from *Hebe raoulii* and doubt exists as to whether the pollen parent was *H. hulkeana* or *H. lavaudiana*. From a detailed examination of the characters of the hybrid it is fairly certain that it is the result of the cross *H. raoulii* x *hulkeana*.

This cultivar was originally named *H.* 'Hagley Park' but the name was never published. It then appeared in several nurseries under the name *Veronica hagleyi* and was described under this name in the catalogue of R. E. Harrison & Co. of Palmerston North about 20

years ago and by R. A. Duncan, New Plymouth, at least as early as 1958. Harrison (*Handbook of Trees and Shrubs for the Southern Hemisphere,* 2nd ed. 1960) subsequently corrected the name to *Hebe* 'Hagley Park.'

As a garden hybrid, the *International Code of Nomenclature for Cultivated Plants* governs the name of this plant and Articles 22-24 and 26 have particular reference. Under Article 15 the rule of priority governs the retention of the epithet *'hagleyi'* while Art. 16 governs the orthography of the name. This refers to *Recommendation 73D* of the *International Code for Botanical Nomenclature* which states, "Epithets derived from geographical names should perferably be adjectives and take the termination *-ensis, -(a)nus, inus, -ianus* or *-icus.*" The name then becomes 'Hagleyensis'. Therefore the correct name for this hybrid is,

Hebe 'Hagleyensis'. (*Veronica hagleyi, Hebe,* 'Hagley Park'.)

The description is as follows—

Erect to somewhat spreading shrub 30-50 c.m. high. Branchlets pubescent with short retrorse hairs, internodes 3-4 times diameter. Leaves more or less spreading, 29-40 x 10-14 m.m., tapering into a narrowly winged petiole. Lamina glabrous; coriaceous, oblong-elliptic to slightly obovate, glossy above, pale beneath. Margin reddish, bluntly serrate. Inflorescence a terminal panicle 12-30 c.m. long with second branching towards the base. Flowers sessile, bracts 2-3 m.m. long, broad, ciliate, sub-acute. Calyx lobes similar to bracts but broadly ovate and more obtuse. Corolla Roseine purple (H.C.C. 629/1) in bud opening to Rose purple (H.C.C. 533/2, lobes ⟶ than tube, 3-3.5 m.m., long ovate. Capsule erect C. 3 m.m. long ⟶ than calyx.

References.

Nursery catalogue, Duncan & Davies, New Plymouth, Circa. 1930.
International Code of Botanical Nomenclature, 1956.
Nursery catalogue, R. A. Duncan, New Plymouth, 1958.
Handbook of Trees and Shrubs for the Southern Hemisphere, R. E. Harrison, 2nd edition, 1960.
Flora of New Zealand, Vol 1, H. H. Allan 1961.
International Code of Nomenclature for Cultivated Plants, 1961.

NOTES FROM THE CHRISTCHURCH BOTANIC GARDENS

L. J. METCALF, N.D.H. N.Z. Assistant Curator Botanic Gardens.

Generally over the past month or two there has been a more than average cooling of the weather, but May, which is the wettest month of the year, has for the first half at least been warm and dry, so that conditions for planting the spring displays have been ideal.

March was the first month, since September, 1961, when temperatures have been below average and this trend continued into April, which had its lowest average temperature for 13 years, bringing with it forecasts for an early or hard winter, such as was recently experienced in Great Britain. Also the monthly rainfall for April was very high; being 3.21 inches as against the average of 1.99 inches. However, on the whole the weather has been good for garden operations and the cool conditions in April helped to bring out an excellent display of autumn colour.

By June practically all the deciduous trees and shrubs have lost their leaves. Only a few trees, such as *Quercus canariensis* and a late form of *Liquidambar,* have retained their leaves, and visitors look to the evergreens and flowering shrubs for interest. Although Christchurch generally suffers from fairly frequent and severe frosts during the winter, there are sufficient flowering shrubs to brighten any garden during that period. Over the past few years an increasing number of Australian and South African shrubs have been found to be hardy in Christchurch and, in particular, they have proved useful for brightening the winter landscape.

So far the greatest success has been with the Australian shrubs rather than the South African, but this is due more to a greater number of the former being grown, rather than the unsuitability of the latter. However, at the moment it does appear that generally more Australian shrubs than South African are hardy in Christchurch.

One shrub which gives a good display at this time of the year is *Thryptomene saxicola* 'Rosea', which covers its slender branchlets with pale-pink starry flowers. It is a comparatively recent introduction from Australia and grows to about 4 feet in height. It is planted in a dry position against the northern foundation of a building, and so far has proved to be quite hardy.

In the Australian section colour is provided throughout the year by the various species and varieties of *Grevillea* and, while some are known to be quite hardy, others are still in the experimental stage. Of the hardy species, *G. victoriae, G. miqueliana, G. rosmarinifolia* 'Jenkinsii', and *G. williamsonii* are particularly useful for winter colour. *Grevillea victoriae* makes a bush up to 6 feet in height with lanceolate leaves 4-5 inches long and pendent racemes of vermilion flowers. Somewhat similar is *G. miqueliana,* also a Victorian species, which has a more spreading habit with smaller leaves and racemes of vermilion flowers: the leaf margins are revolute. *Grevillea rosmarinifolia* is an old favourite but the variety 'Jenkinsii' is a much superior thing with more conspicuous flowers and more of them. It provides a good display over a long period. The dainty pink flowers of *G. linearis* var. *incarnata* are always attractive at this time of the year. This species which comes from New South Wales has so far proved hardy and promises

to make an attractive subject. Other species of *Grevillea* which have proved hardy, or are under trial, are *G. hookeriana, glabrata, fasciculata* and *asplenifolia.*

Although not flowering until late in the winter, *Goodia lotifolia* makes a loose shrub up to 12 feet in height which provides a bright splash of yellow when in bloom. One plant which gave an almost continuous display throughout last winter was *Acacia retinodes,* the wirilda of Victoria and South Australia. It is an erect growing species and promises to be a good acquisition to the collection.

Callistemon brachyandrus is a handsome species which deserves to be better known. The rather lax branchlets give it a semi-weeping appearance and the bright red brushes also hang down. The most distinctive thing about this species is that the bright, golden yellow anthers give the flowers a two-toned effect. This is only the second season in which this shrub has flowered in the Gardens, but it would appear that it is naturally a winter flowering species.

Another useful winter flowering shrub which has proved itself quite hardy is *Agonis juniperina* from Western Australia. This produces masses of small white flowers on pendulous branchlets and is very effective. The Gardens association with Australian plants goes back to the 1870s, when a large collection of these plants was grown here, many more species being grown then than now. However, the present experimental plantings indicate that conditions are still suitable for their growth, and that there is a large reservoir of material which could be grown here.

Of the potential of South African shrubs, less is known. However, a fair amount of success has attended the planting of several species of *Leucadendron* and *Leucospermum.* These have all been planted on the Pine Mound which provides conditions similar to a raised bed about 3 feet high with perfect drainage, a fully sunny exposure and slight overhead shelter, which is provided by the tall *Pinus pinaster.* Of those so far tried, *Leucadendron venosum* has proved one of the hardiest, *L. discolor* appears to be quite hardy and *L. adscendens* is an attractive small growing species which is quite hardy. With this last species the flower heads are about 2-2½ inches across; the narrow bracts pale yellow, and the cone yellow.

Leucospermum tottum is a very hardy species, but it has not yet flowered. At the end of the winter of 1961, after exceptionally wet conditions in July and August the plants of *L. bolusii* and *L. nutans* died. However, this appeared to be caused by their receiving a little too much shade as well as the wet conditions because the plant of *Leucadendron discolor* which was 2 or 3 feet higher in the same situation did not show any signs of distress. Two new plants have been planted in a slightly different position and their progress throughout the latter part of this winter will be watched with interest.

Other half hardy plants which are being grown with success are *Ochna serrulata* and *Bougainvillea glabra* 'Magnifica'. From these notes it may be seen that providing the right situation is chosen, many more of these plants than is generally realised, may be grown on the flat in Christchurch.

NOTES FROM THE DUNEDIN BOTANIC GARDENS

R. W. BALCH, N.D.H. (N.Z.)

An indispensable part of any Botanic Gardens or Parks Department in New Zealand which is maintained by a City or Borough Council is its Nursery, or Propagating Department. Its function is to raise crops and permanent plants for providing displays in show houses, to produce bedding plants for flower plots and borders, to grow young trees and shrubs for planting out in public parks, gardens and streets, and to furnish cut flowers and floral decorations for civic functions. It also provides a suitable environment for the training of apprentices in horticulture. Its importance varies to a certain extent according to the size of the town or city, to climatic conditions, and to the current policy of the controlling body, but it is always present, though often inconspicuous. Many citizens may be quite unaware of its existence. Although it is usually enclosed, with the gates marked 'Private', genuinely interested people are made welcome, and a request to the person in charge usually results in a conducted tour of the premises. This is particularly so with classes of secondary school pupils or groups of people from societies with horticultural activities.

In the Dunedin Botanic Gardens, the Propagating Department is situated on a sunny hillside, protected from strong winds by nearby trees and shrubs and the administration buildings and workshops of the City Corporation Reserves Department, of which it is a part. Owing to the hilly nature of the surrounding areas, space is limited, so that compactness is a necessity. A range of glasshouses with potting shed, rows of frames for hardening off and giving light protection to tender plants, shade houses, raised nursery beds and several acres of open nursery, are all vital for the successful handling of the wide variety of plants grown. The soil-sterilising plant, with accompanying bins for soil, sand and peat; manure, seed and bulb stores: label and floral rooms; soil sifting and miscellaneous machines, are all housed nearby.

Although many of the buildings have been in existence for over 50 years, extensive additions have been made in recent years, while a programme of modernisation of the older ones is being carried out as finance and labour become available.

Since the advent of the 40-hour 5-day week, it has not been as easy to give the constant attention to glasshouse work that was given by the skilled gardeners of an older generation, who often almost lived with their plants. Consequently the trend in recent years has been to build and furnish plant houses that automatically provide good growing conditions, with as little personal attention as possible. In botanic garden and public park work, where individual crops grown are relatively small (but the range of plant material very wide, and varying greatly in conditions required as compared with commercial horticulture) detailed personal attention will always be much more necessary, with plants being treated as individuals instead of as a crop as a whole. Therefore, the mist propagation houses of the modern nurseryman, the automatically watered, manured, ventilated and heated glasshouses of the market gardener, and the particular structures of the plant specialist, are not usually found suitable for botanic garden requirements. However, many ways of reducing labour and running costs, and of increasing efficiency (i.e., the production of well-grown plants) have been tried with varying degrees of success. In the heating of glasshouses, the system whereby a thermostatically controlled diesel burner heats air which is driven through 8in

diameter polythene tubes has been installed, which shows great promise. The conservation of heat and moisture, and the maintaining of an even temperature, have been greatly improved by the building of double-glazed houses lined with polythene. Ventilating systems have become more efficient with the fitting of Teleflex ventilator operating gear and the use of Cooper louvres. Regarding shading, a moving film of water has had partial success. Slatted blinds are mainly used, while the replacement of glass with various types of fibreglass has given good results with garden frames and in the fernery. Internal venetian blinds for vertical plate glass are also good. Semi-automatic overhead watering with fine jets is installed for orchids, ferns and shade houses. Mist propagation has not been found suitable for the general type of propagation undertaken. Polythene blinds for propagating pits, with individual polythene covers for seed sown in pans, pots and boxes, are much preferred.

The handling of seeds, cuttings and young plants has been simplified by the introduction some twenty years ago of the John Innes system of seed and potting composts, with entirely satisfactory results for most plants providing the recommended types of ingredients can be obtained. This applies particularly to peat, deposits of which in New Zealand vary greatly in quality. With steam sterilisation of the soil, which is included in this system, weeds in pots and boxes have been practically eliminated.

Materials used in the construction of new glasshouses, or the reconstruction of old ones, has changed greatly in recent years. Jarrah is still used for base plates, but aluminium alloy is used for portal frames and purlins to support western red cedar astragals. Large sheets of plate glass, and glass bricks, give good effects for vertical glazing for show houses, while large panes of 24oz glass with fewer astragals are used instead of the former small panes with much woodwork. Sheets of flat and corrugated fibreglass and plastic of various brands have taken the place of glass in special instances, while the use of laminated wooden portal frames for the 25 feet high fernery has eliminated the need for interior supports.

It is interesting to note that in many towns and cities in New Zealand, council nurseries have large areas of open ground in which—as well as plants for bedding and cut flowers—large quanties of trees and shrubs are grown. In Dunedin, possibly on account of limitations in area for such a purpose, plants are restricted to those required for bedding, cut flowers, street tree planting, and for the medial strips often formed in modern roading. Azaleas and rhododendrons, however, are grown by the thousand, but in the case of roses, specimen trees and shrubs in general, it is found more economic to purchase requirements as they arise from nurserymen who specialise in particular lines.

NOTES FROM PUKEKURA PARK

A. D. JELLYMAN, N.D.H. (N.Z.) (New Plymouth)

Of all the public Parks in N.Z., Pukekura is probably the best endowed with conditions to grow collections of native conifers in natural surroundings and regenerative growth.

The most noteworthy of these trees is the Rimu (*Dacrydium cupressinum*) whose ages must rarely exceed ninety years. There are many fine specimens to be seen furnished healthily from almost the ground to their tops. Suppression of light by surrounding growth causes the trunks to become bare. Restoration of light will, however cause the trees to refurnish, and this takes place usually at the main trunk to an extent that in two years a well furnished tree will result.

Dacrydium kirkii, the monoao from the Great Barrier Island is also found growing in the Park. Our best specimen is among the Hedychium Bank on the Hatchery Lawn and stands 10 feet high at present, apparently revelling in the cool shady root system afforded by the ginger. Two other members of this genus we have growing are a recently planted *Dacrydium biforme* and a very happily growing *Dacrydium laxifolium* at the top of the Primula Dell.

Of the *Phyllocladus* we have each of three species growing. Tanekaha (*Phyllocladus trichomanoides*) is abundant throughout the park and it is found to be flowering and seeding quite regularly, so our nursery stock is now exclusively Park collected. The best specimen of toatoa (*Phyllocladus glaucus*) is growing at the foot of 'Horton Walk' adjacent to the office door. This tree is now ranging for 20 feet in height and is magnificently symetrical and luxuriantly furnished. This present state of health has not always been so, for a few years ago it was a poor, sparse tree with the ground at its base devoid of any growth whatsoever. Its transformation seems due to the encouragement of planting of ferns etc., about its base, keeping the soil cooler and arresting more of the precipitation. Our *Phyllocladus alpinus* are both bushy, multiple stemmed plants, about 6 feet high.

Both of our native cedars kaiwaka and pahautea, are to be found growing in the park. Kaiwaka (*Libocedrus plumosa*) can be seen growing at its best in the Kindergarten Gully, where there are several magnificent trees planted in the 1930s, now reaching 25 feet in height.

The kauris (*Agathis australis*) have been planted since 1876 and the older trees now assume rounder and broader heads whilst the younger trees maintain nicely tapered apices.

The genus *Podocarpus* is well represented and many fine specimens can be seen. These are of course one of the favourite haunts of the native birds, in the autumn, for their fruits. Upon the low damp areas kahikatea (*Podocarpus dacrydioides*) grows abundantly. It is

covered in spring with creamy pollen masses, in late summer with young fruits, with glaucus bloom giving the trees the look of a fine whitish talc all over it, and in autumn and winter its black seeds in the orange red arils give the tree yet another charm. This is one of the best attractions for the native pigeons and also the trees seed down and regenerate naturally and quickly here. Miro (*Podocarpus ferrugineus*) is also plentiful and it, too, fruits regularly here, but while the fruits are not nearly as prolific as the kahikatea they are much larger and a favourite of the pigeon. The mountain totara (*Podocarpus nivalis*) is not seen so much here, but there are two larger specimens upon the tennis court area. While totara (*Podocarpus totara*) is plentiful the majority of trees fail to form a dominant leader hence extensive work is carried out on young plantings to encourage some dominance. *Podocarpus hallii* is also found growing at the top of the Kindergarten Gully, and the best trees are found now reaching 20 feet in height. *Podocarpus acutifolius* has only a couple of recently planted representatives but will in later years make a useful addition to the collection. Although by walking around the tracks most people do not see many matais (*Podocarpus spicata*) there are quite a few in the bush and work is carried out on these trees to encourage single leader specimens.

Perhaps a suitable conclusion would be to say that, to see and enjoy a collection of happily growing native conifers, Pukekura Park is the place.

PUBLICATIONS RECEIVED

SHRUB ROSES OF TODAY. Written and illustrated by Graham Stuart Thomas (Gardens Advisor to the National Trust). Published by Phoenix House Limited, 10-13 Bedford Street, Strand, London, W.C.2.

Mr. Graham Thomas' two previous books, *The Old Shrub Roses,* and *Colour in the Winter Garden,* were written delightfully, well illustrated, and were a source of accurate information concerning roses, as well as winter-flowering and foliage plants. These have proved of real assistance to New Zealand gardeners. Therefore, it was with great interest that the arrival of his third book, *Shrub Roses of Today,* was awaited. This caters not only for those who love the 'old roses', but also for the many who are contemplating adding the new types of shrub roses into their gardens, whether these be of old or modern design.

The shrub rose has definitely come to stay, for even those that are summer-flowering only, bloom for a number of weeks, and generally have fine foliage and decorative heps. On the other hand, many of the newer shrub roses are almost perpetual flowering and can add great character to a mixed border. Mr. Thomas himself grows them in this attractive manner, under-planting them with fine perennials and foliage plants.

The author describes, accurately, the historical and botanical backgrounds of all the roses mentioned in *Shrub Roses of Today.* Just as *The Old Shrub Roses* has become a valuable book of reference to all old rose enthusiasts in New Zealand, so will this third book prove equally valuable to all lovers and students of the rose in this country of keen gardeners.

Quite apart from its value to those wishing assistance in identifying 'old roses,' and for those wishing to add to their knowledge of many fine, modern shrub roses, *Shrub Roses of Today* has been most beautifully illustrated by Mr. Thomas with water-colour paintings, pencil sketches, and photographs. Many charming studies from the author's pencil and brush add to the attractiveness of this recent publication — studies of the 'old' and the 'new' leaves and heps being featured, as well as flowers. The unusual pencil sketches portray each aspect of the chosen subjects faithfully, while the water-colours give a sensitive, true, and at the same time, a most artistic rendering of each lovely flower, leaf or hep. This will prove to be a valuable reference book, a book that can be referred to over the years, and one which should prove a welcome and permanent addition to any rose lover's library.

Just to round off an excellent book, Dr. Gordon D. Rowley (former keeper, National Rose Species Collection, John Innes Institute) has added an informative chapter giving a 'Key to the Major Groups of Cultivated Roses', with a list of double flowered mutants. This covers only the main groups of garden roses, but should prove of real assistance to horticultural students, nurserymen, and enthusiastic amateurs.

N.S.

PROCEEDINGS OF THE CONFERENCE ON THE VEGETABLE GARDEN (Published by the Canterbury District Council at 5/-).

This is a collection of papers given at the fourth of these conferences which deals with vegetables. Each of the five panel members is a recognised horticultural authority and the papers given, being the result of practical experience and scientific observation, provide invaluable information for the home vegetable producer at an extremely modest price. The publication consists of 51½ fulscap pages of single spaced typescript. Under the chairmanship of Mr. H. W. Gourlay, M.Sc., F.R.I.H. (N.Z.), three papers were given at the morning session. *Soil Management and Fertilisers,* dealt with by W. Brandenberg, covers the geological history of Canterbury, the types of soil, their cultivation and treatment. The planning of the vegetable garden, the best time to sow and the conditions required and the all important matter of crop rotation are covered by L. C. Hurndell's paper. The cultural requirements of the various vegetables are ably given in R. A. Tilley's paper *Cultural Attention.*

Mr. J. O. Taylor, N.D.H. (N.Z.) F.R.I.H. (N.Z.) presided at the afternoon session, where the first paper was by Mrs. Avice Hill, entitled *The Culinary Herb Garden.* It is particularly pleasing to find herbs given a position of importance among vegetables, for the impression one gains today is that the art of using herbs is on the wane. The plan of a herb garden included with this paper may well be commended to owners of moderately sized gardens. Modern methods of controlling diseases and pests of vegetables formed the subject for G. F. Thiele's paper. The accompanying table showing the various kinds of vegetables, the diseases and pests to which each is subject and the methods of control cannot help but be of great value to all gardeners. B. L. Chisholm's paper *Aids to Early Cropping,* with particular emphasis on the recently introduced hardier and earlier disease resistant strains also provides a valuable guide. The important matters of *Harvesting and Storage* of onions and potatoes is the subject of Mr. T. Mundy's paper. Mr. M. J. Barnett draws on his vast store of horticultural knowledge and experience to give a most interesting paper on *Uncommon Vegetables.*

A valuable and stimulating feature of this Conference was the question and answer session that followed most of the papers. By this means, members were able to satisfy any queries while they were fresh in their mind.

THE LILY YEAR BOOK 1963, published by the Royal Horticultural Society, London, England.

The current issue of this year book, now in its 27th year of publication, reflects the great advances taking place with this aristocrat among bulbous plants. The contributors are lily enthusiasts from all parts of the world. In addition to the ones we should expect from gardens in Britain, E. B. Anderson writes of *Lilies in the U.S.A.;* Edward K. Balls has something to say of native lilies of California: Africa is represented by S. Gilkison who writes of *Lilies in Northern Transvaal,* as does also Beryl Reynolds, while Dennis Newton-King deals with *Lilies in South Africa.* Dr. R. M. Withers and J. M. Piesse, on behalf of the Australian Lily Society, writes of *Lilies in Australia.* K. Wada, of Japan, writes a short but illuminating article on how *Rhododendrons Protect Lilies.* I can find no contribution from New Zealand although a number of Dr. Yeates' *auratum* hybrids are mentioned with distinction. Articles on *Nomocharis, Cardiocrinum* and allied species add much to the interest of this fascinating publication. It is freely illustrated, including five subjects in full colour.

THE RHODODENDRON AND CAMELLIA BOOK 1963, published by the Royal Horticultural Society, London, England.

This year book of international renown, is now in its 18th year of publication. Botanically, this issue is of unusual importance because it contains H. H. Davidian's important revision of the *Rhododendron* series continued with the *triflorum* group. There are fascinating articles dealing with rhododendrons under cultivation in various countries including Turkey, America and Britain. Colonel T. Durrant writes of *Some Historical Camellias* in New Zealand, and Sir Giles Loder contributes an article on *Camellias on the Gulf Coast of America,* Six specimens of rhododendrons and one of camellias are illustrated in colour and there are many half tone illustrations.

THE DAFFODIL AND TULIP YEAR BOOK, 1963, published by the Royal Horticultural Society, London, England.

This has been a sad year for the daffodil. It has seen the passing of the world's two greatest daffodil breeders, within a few months of each other — J. Lionel Richardson and Guy L. Wilson. Appreciations of these two great daffodil raisers appear in this issue. We do not read much of double daffodils and, for that reason, Matthew Zandbergen's article on this group, past and present. is most welcome. Alec Gray and J. W. Blanchard deal with the miniature species and varieties in which they specialise. M. Jefferson-Brown gives his impressions of daffodils in the U.S.A. Daffodils in the U.S.A. are well covered by Willis Wheeler, President of the American Daffodil Society. There are also show reports and notes concerning outstanding flowers from New Zealand, South Australia and Tasmania. There are articles on tulips and a departure in an excellent article on *Sternbergia* by E. B. Anderson. This, it is stated, is a precedent for future years.

ROCK GARDEN PLANTS OF THE SOUTHERN ALPS, W. R. Philipson and D. Hearn, published by the Claxton Press, Christchurch, 1962. 167pp. Price £2/7/6.

While books on alpine plants from other lands abound, our New Zealand alpine flora has been quite neglected, and the appearance of this book is most welcome. Both authors are well known people in their own fields and, they have combined to produce a book which is both attractive and useful. Professor Philipson, who contributed eleven of the twelve chapters, is professor of botany at the University of Canterbury and, since his arrival in this country some years ago, he has become a real enthusiast of New Zealand

alpine plants. Mr D. Hearn, a well known photographer, wrote the chapter on the portrayal of alpine plants and is responsible for the hundred odd illustrations in the book.

The book is well set out and the material is presented in a very readable form. As the various chapters unfold a very comprehensive picture of the Southern Alps is presented to the reader. Readers are presented with a picture of the Southern Alps and their flora through the eyes of someone who is not native to this country and, consequently, the book has an interesting flavour throughout. The style of writing seems to indicate that the book was written largely with an eye to the overseas market. However, local readers will find it, nonetheless, interesting.

Chapter 1 gives a good introduction to the Southern Alps and deals with the general aspect of our alpine flora, together with its form and the general lack of colour in the flowers. The chapter on scree plants is particularly interesting reading, and readers will surely be astonished at the variety of plant life found growing on these apparently lifeless slopes. Similarly Chapter 9, dealing with the unique vegetable sheep and related plants, tells a most interesting story about these fascinating plants. The other chapters deal with the main groups of plants found throughout the mountains, the plants being grouped, not systematically, but in what will seem to the average reader to be a logical sequence.

The chapter dealing with the portrayal of alpine plants is written by a person who knows full well the difficulties of trying to photograph plants in the mountains. The information and advice contained therein is sound and easily followed.

No book is without fault, and the main criticism of this book is that it is not so much a book about rock garden plants, but rather a book about the alpine plants of the Southern Alps. The alpine enthusiast looking for practical information on the culture of these plants will find on the whole that it is lacking. Some of the plants recommended are hard to understand, for example *Carmichaelia grandiflora, Corokia cotoneaster* and *Senecio laxifolius* are not plants one would recommend for the average rock garden. In Chapter 5 *Hebe canterburiensis* is recommended as one of the best of the green leafy veronicas for the alpine garden while the ever so much superior *Hebe rigidula* receives no mention.

Nomenclature is on the whole good, although it is surprising to find the South Island *Senecio bennettii* listed as *S. elaeagnifolius, Coprosma depressa* as *C. ramulosa* and *Senecio bidwillii* var. *viridis* as *S. bidwillii.* Typographical errors are very few and it is unfortunate that the specific name of *Raoulia mammillaris* should be consistently misspelt.

The illustrations are mainly excellent but a few such as *Ranunculus lyallii, Leucogenes grandiceps, Parahebe lyallii* and *Celmisia spectabilis* do not portray the subjects particularly well. The coloured plates are very good.

Although this book does not make the grade with regard to the culture of alpine plants it is nevertheless a first-class account of the alpine flora of the Southern Alps and should have wide appeal because of that. It is a book which can be recommended for all people who may be interested in our alpine flora and should be invaluable to teachers and students.

L.J.M.

DISTRICT COUNCIL REPORTS

WELLINGTON.

A most successful end of the year function was held on 6th December, 1962 in the Shell Theatrette. The Mayor of Wellington, Mr Kitts, and Mrs Kitts were present together with representatives from the majority of horticultural and floral art societies in Wellington, members of the Profes-

sional Floral Artists' Association and our own members. The close association between the professional florists and the Institute was maintained when Mrs Kitts presented certificates and diplomas to those who were successful in the Professional Florist examinations.

The guest speaker for the evening was Mr John Watling, F.R.I.H. (N.Z.), who, by the means of an excellent selection of coloured slides, took his audience to Canterbury for the evening. Prize winning gardens and others, exhibits from some of the Hagley Park shows and many slides of floral arrangements and displays were of great interest to all present. Our district council is most appreciative of the effort Mr Watling made.

The Dominion President, Mr J. F. Living, was present. We record his words to us:—I would like to convey to you all the best wishes from the Dominion Council. Could I say just a few words about our Royal New Zealand Institute of Horticulture, which aims to do in New Zealand what the Royal Horticultural Society does in England. It does well to note that this is a Royal Society and not only does it give service to its members but it does much to foster and help horticulture nationally.

Our membership includes most of the leading horticulturists in the country. Leading men and women in the Horticultural Division of D.S.I.R. and the Department of Agriculture, Massey and Lincoln Colleges, Parks and Reserves men in the city councils, the nurseries and Horticultural Trades and a large membership of keen home gardeners.

District Councils not only try to interest and help home gardeners but try to work in conjunction with horticultural societies by supplying judges for shows and speakers for functions.

The Dominion Council has on it representatives from District Councils and representatives from all societies interested in Horticulture, such as the Camellia Society, Forest and Bird Society, National Rose Society, etc. It is recognised by the Government as the body representing Horticulture and many matters are referred to it for advice. Matters of importance are often taken up by the council and representations made by it have always been listened to and well received.

We are recognised overseas in the field of nomenclature and have a permanent committee under the chairmanship of Mr. Salinger working on this matter.

We do splendid work in the field of education with an excellent Examining Board under the Chairmanship of Professor Gordon of Victoria University. Many students sit our examinations for diplomas in Fruit Growing, School Gardening, and Agriculture. The examinations are governed by the Government and are widely recognised.

At the present time we are working on a careers booklet to encourage those leaving school to take up Horticulture as a career. We are also preparing a new judging handbook for use at shows.

A matter of major importance is taking shape at the present time. We hope to see a Chair of Horticulture established at either Massey or Lincoln College in the very near future.

Our Mr Short here has recently been doing investigations on the presentation of trees and bush in connection with roading and town planning.

From these observations I trust you realise that we work not for ourselves alone; and, by being a member, you help to do much on a National basis.

As New Zealand President, may I wish you well and very happy Christmas and prosperous New Year.

GARDEN VISIT TO TITAHI BAY — 9th March, 1963.

Following the cancellation of this visit in the springtime, we were pleased to make the trip to Titahi Bay area where we were guests of

the Titahi Bay Beautifying Society. This garden area with its active Society was able to show members something of the diversity of growing conditions, problems and achievements which were very creditable. It was unfortunate that more members were unable to take this opportunity of viewing four interesting gardens and enjoying the hospitality of the Society.

The party visited first the garden of Mr A. W. Wright which has been developed from a sand dune over a period of 30 years.

The shelter provided by *Cupressus macrocarpa* and native plants allowed a wide variety of delightful plants to thrive. Members particularly enjoyed the many plants of good picking quality, for example ericas and hellebores, and all were interested to see the natural appearance of Mercury Bay Weed in this garden. Mrs Wright is a keen plantswoman and from her experience encouraged members to grow more interesting plants.

Our second visit was to the garden of Mr H. M. Underwood who during the last 5 years has become interested in and developed an amazing collection of cacti and other succulents. Members were fascinated by the unusual flowers of some species and by the outdoor use of which Mr Underwood had made of these plants. The enthusiasm of this amateur grower inspired many growers to reconsider the place of cacti and other succulents in garden planting.

We then visited the garden of Mr J. D. Brodie — another garden developed on a sand dune. A very compact area with a wide range of bulbs yet with trees and enclosed areas which gave spaciousness to a relatively small area. This garden can be imagined as a springtime delight when the bulbs are at their best.

Quite a different area, our final visit to Dr. Graves' property showed us a glimpse of the flora which had once covered the whole area. This small bush area has been set aside by Dr. Graves and allowed to develop naturally, so that tree ferns, lacebarks and many other native plants were thriving. It was interesting to note that the fern population appeared to be decreasing in the natural evolution of the bush area. This garden some years ago was awarded the Bledisloe Medal by the Wellington Horticultural Society for the cultivation of native flora, and will remain an oasis in the area as a memorial to the thought and understanding which has been given it.

EVENING MEETINGS

These have been held in conjunction with the Wellington Horticultural Society. On March 7 Mr B. R. Rough, Dip. Hort., spoke on 'Garden Planning'. He illustrated his talk by means of coloured slides and an excellently conceived model of a garden layout.

In April, Mr T. G. Tyrer spoke on the Phosphate Islands, Ocean Island and Nauru Island. Mr Tyrer had recently visited these islands and gave his audience a stimulating and interesting talk on what he called New Zealand's 'life blood' — superphospate.

At both meetings Miss R. A. Campion gave a 15 minute talk on 'Gardening for the Month'. A table display of dahlias was also staged in March, and a chrysanthemum display at the April Meeting.

WHANGAREI

FEBRUARY

This meeting drew a very good attendance of members and friends. Mr and Mrs Kokich provided an unusual programme, consisting of colour slides taken on their recent caravan tour of Europe, North Africa and India. Since both are flower lovers and gardeners of note, the pictures were mostly of flowers in the wild, or in the gardens of notable people. Mrs Kokich gave a running commentary. At Florence, in Italy, Mrs Kokich

had the distinction of judging for three weeks at the International Trial Gardens for Iris. These are sent by famous growers from many different countries and there grown under strict supervision till mature, and are judged not only on form and beauty, colour and substance of petal, but also on their resistance to disease and their ability to stand up to wind and weather. Only one person knows where the plants come from or who grew them. Our own celebrated Mrs Stevens, of Wanganui, was among the many sending plants for trial. Mrs Kokich's son was given instruction in Iris judging and was afterwards able to choose some of the top rankers.

Some time was spent in Portugal, especially in the Cape St. Vincent area where a great diversity of plants grew, or had been planted, along the roadsides, adding to the attraction and interest of the traveller. Stocks on the borders of Spain and Portugal, and irises and geraniums along the roads in Portugal, all three being plants which need little water. In North Africa great variety of flowers were blooming in the wilds. Romuleas (which are well suited to Northland) were abundant. Iris, Marigolds and Alliums were notable in Morocco and even to the fringes of the deserts the earth displayed its varied treasures. Many were new and unknown to the travellers. In Europe, and especially in Italy, many magnificent gardens were visited. The lay-outs and colour masses filled us with envy. In Switzerland the alpine flowers, better known to us, were shown in drifts of colours, gentians, violas, *Linaria* and alpine anemones growing in endless profusion. In Norway, saxitrages, *Androsace* and ericas were most noteworthy. Finland gave more cold-country plants and in Jugoslavia water lilies were seen in large areas on the rivers. Finally in India we saw the really gorgeous gardens of Mr Nehru, with wonderful orchids growing outside in great profusion.

OBJECTS OF THE INSTITUTE

The objects of the Institute are as follows:—

1. To encourage, foster and improve every branch of horticulture.
2. To exercise all the powers and functions of a horticultural nomenclature and certificating board, including the making of decisions and reports in regard to the nomenclature of plants, and to issue, in the name of the Institute, certificates, medals or diplomas for novelties of merit or new varieties.
3. To assist and promote horticultural education in every way possible.
4. To promote legislation having for its objects the advancement or protection of horticulture.
5. To assist research work in connection with any or all branches of horticulture.
6. To endow or assist any chair, lectureship, or horticultural teaching in New Zealand, in colleges, universities or other educational institutions the Institute may decide upon.
7. To promote the interchange of horticultural knowledge and to co-operate with governments, scientific or other societies or bodies, or persons in any part of the world who may be working along any or all of the lines covered by the objects of the Institute.
8. To undertake or assist in the introduction and acclimatisation of any fruit tree, flowering tree or plant, forest tree, seeds or other form of plant life which, in the opinion of the Institute, should be introduced.

9. To establish, assist or endow libraries, and to obtain by purchase, exchange, or otherwise, books, papers and other publications relating to any or all of the matters covered by the objects of the Institute.

10. To arrange for the carrying out of work of 'bud selection' the testing of new varieties of trees, plants, vegetables and any and all things necessary to the better understanding of tree and plant life and the maintenance or improvement of the standard of such.

11. To arrange for the selection and breeding of any or all classes of trees and plants for testing, and for the supply of certificated propagating material to nurserymen and others on such terms as may be arranged.

12. To carry out, arrange for or assist any object or objects which, in the opinion of the Dominion Council or of the Executive, come within the scope of horticulture, in its widest scope (not excepting forestry or agriculture).

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Royal New Zealand Institute of Horticulture (Inc.)

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