New Zealand Garden Journal

Journal of the Royal New Zealand Institute of Horticulture (Inc)

Crocus imperati subsp. suaveolens

The Pleasures of Crocus • Arisaema - Subtle Beauties for the Woodland
New Zealand's Open Garden Scheme • New Plant Network for Auckland

Volume one, number one, March 1996

A study in harmony

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Volume one, number one
March 1996

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NEW ZEALAND GARDEN JOURNAL

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Contents

Editors Note

From small beginnings great things are made. This first issue of the New Zealand Garden Journal is a small but exciting beginning in the life of a new magazine. Aimed at those with a passion for plants and gardens, the Journal will have a distinctly New Zealand flavour while keeping you up to date with news and views overseas.

We are pleased to have three contributing writers: Derrick Rooney from Canterbury writing the Plantsman's Notebook, Eric Walton from Hamilton, writing occasional articles on plant genera of garden interest, and Charlie Challenger from Banks Peninsula writing on a range of topics. In this issue Charlie brings us the Pleasures of Crocus, which details the national collection of crocus species he has established.

In starting out we need your support and feedback as readers. Please encourage people to join the RNZIH and so increase circulation of the Journal. Support our advertisers, as without them it is difficult to produce a magazine of quality at reasonable cost. In particular we thank Touchwood Books, Boffa Miskell and Partners and Mara Nurseries.

Our thanks go to those who have waited so patiently for this issue.

Happy reading.

Mike Oates
Sarah De Renzy

Cover Picture: *Crocus imperati* subsp. *suaveolens.* **Photo:** Charlie Challenger

Plant and

Plant and Garden News

Peter and Evelyn Skellerup at the launch of the P. J. Skellerup Conservation Scholarship, October, 1995.

RNZIH Announce New Scholarship

One of the highlights of the recent RNZIH conference was the official launch of the P.J. Skellerup Conservation Scholarship. The purpose of the scholarship is to assist with the conservation of plant genetic resource in New Zealand. This includes both our native plants and exotic garden plants. The scholarship was made possible by a gift of $50,000 to the Institute by Peter Skellerup AHRIH.

Mr Skellerup has been closely involved in discussions over the award which will be granted for research, field work, publication, propagation, protection and/or cultivation of plants, production of educational resources and any other activity likely to promote and assist the conservation of New Zealand's plant genetic resource. Up to $5,000 will be available annually. The winner will also be awarded an inscribed bronze medal.

The first scholarship will be awarded in 1996. For details and application forms please write to the Royal New Zealand Institute of Horticulture (Inc.) P.O. Box 12, Lincoln University, Canterbury.

Tanacetum Cultivars Wanted

The National Council for the Conservation of Plants and Gardens is a charitable organisation in the United Kingdom whose major role is the conservation of garden plants. It has facilitated the establishment of over 600 national plant collections, many in private hands. The national collection holder of Tanacetum (Pyrethrum) is looking for cultivars no longer in British gardens that may still be available in New Zealand. Those wanted include Harold Robinson (single rosy red), Lord Roseberry (double rosy red), Mrs. Wilson Barrett (double old rose), and White Aster (double white).

If you can help please contact the collection holder direct: G.W. Goddard, 25 Mornington Road, Chingford, London E4 7DT, U.K.

National Rhododendron Collection

The New Zealand Rhododendron Association and Pukeiti are jointly working on the establishment of a national species collection based on the major collections at Pukeiti and Dunedin Botanic Garden. Other public and private collections will be added later. The idea is to establish a national collection database based at Pukeiti. Later, access will be available on the Internet. The database will enable people to find the whereabouts of rhododendrons in cultivation and assist with conservation of species threatened in the wild through recording of accurate information about wild collected material.

For more information on this ambitious project contact Graham Smith, Horticultural Director, Pukeiti Rhododendron Trust, R.D. 4, New Plymouth.

Garden News

Plant and Garden News

Performance of New Rose Cultivars

The National Rose Society of New Zealand produces an annual report on the performance of new cultivars based on observations of growers from around the country. Some of the notable performers in the 1994/5 season include :

Colleen: Cream edged pink blooms with very vigorous growth. Little sign of disease. Good weather resistance.

Maggie Barry: A tall upright grower with coral salmon flowers. Flowers better in its second year.

Paddy Stephens: Dark glossy foliage with flowers a blend of salmon and orange. Best blooms in spring, later ones getting smaller in the heat.

Little Opal: A patio rose with soft pink petals with a deeper pink reverse. Picks well and excellent for floral work.

Class Act: A floribunda with light green foliage and cream flowers with gold stamens. Free flowering and grows well throughout the country.

Abraham Derby: A shrub rose with large fragrant flowers in shades of peachy pink and yellow. Very strong grower. Some grow it as a climber.

Climbing Plant Survey

In association with Dr. Keith Hammett and the Royal New Zealand Institute of Horticulture, we are collecting information of the current holdings of members of the following plant genera in New Zealand so that the Plant Collections Scheme list can be updated :

Bomarea
Lonicera
Kennedia
Parthenocissus
Thunbergia

If you have any climbing members of these genera would you kindly advise us.

Christine & John Nicholls, "Tendrils", 101 Pyes Pa Road, R.D.3, Tauranga.

Symposium on Magnolias

The International Dendrology Society is organising a symposium on this important plant genus later this year. The symposium will examine the physiology, taxonomy, breeding, and cultivation of magnolias and will take place in Windsor, U.K. between 10 and 14 April.

For more information contact Phillipe de Spoelberch, Herkenrode, Vijverbos 6, B-Haacht (wespelaar), Belgium.

Lathyrus Conference

The National Council for the Conservation of Plants and Gardens (NCCPG) is organising a conference on this little known genus. The conference takes place at Maddingley Hall near Cambridge in the U.K. from 7 - 9 June 1996. For more details write to Miss S.M. Norton, Weaver's Cottage, 35 Streetly End, West Wickham, Cambridge, CB1 6RP, U.K.

A Source Book of Cultivar Names

Determining the correct names of cultivars can be an extraordinarily vexing task. Locating published names in the literature and finding checklists and descriptions and names is not easy even for specialists in the field. Now comes what will be a godsend for many. A checklist of checklists for more than 300 genera from *Acer* to *Zinnia*. The few genera I know well seem to be covered competently. Even if some things are missing, what's there will be remarkably useful. This checklist by A.O. Tucker, S.C. Kunst, F. Vrugtman and L.C. Hatch is in Arnoldia (Boston) Volume 54, Number 4 (1995). Separate numbers of Arnoldia are available from Circulation Manager, Arnoldia, The Arnold Arboretum, 125 Jamaica Plain, MA 02130-3519 U.S.A. for $US10, by cheque drawn on a U.S. bank, or by international money order. Buy it - it should be in every horticultural library.

Hebe Checklist Update

The RNZIH is the International Registration Authority for cultivars for some of New Zealand's native genera. To date the RNZIH have published checklists for *Cordyline, Sophora* and *Phormium.*

Plant and Garden News

For many years Lawrie Metcalf, a world authority and author on New Zealand plants has been working on a checklist of *Hebe* cultivars. As you can imagine this has been a major undertaking and has resulted in a list of approximately 1,000 cultivar names and descriptions. This checklist has considerable importance locally and internationally as the standardisation of cultivar names will help clarify confusion surrounding many *Hebe* hybrids.

The RNZIH is very pleased to announce it has received a substantial grant from the Stanley Smith Horticultural Trust in the U.K. to assist with the publication of this very important checklist.

Further details of availability and price will be available in the next Journal.

Harry Hart Arboretum Lake Coleridge

History - on - disk

Information on the Harry Hart Arboretum, one of New Zealand's most important conifer collections is now available on disc. Compiled by Derrick Rooney, the disk includes a complete transcription of 50 years of notes kept by the late Harry Hart. The earliest entry is dated 1931 and the last 1979 just prior to his death.

The information will be of interest to RNZIH members and anyone with an interest in trees. Numbered copies of the disk are available by writing to Derrick Rooney, Box 43, Hororata, Canterbury. Costs are $15 to RNZIH members, $20 for non members.

A Plantsman's Notebook

by Derrick Rooney

Rhododendrons in a dry Summer Climate

The difficulty of growing rhododendrons in general, and deciduous azaleas in particular (yes, azaleas are pseudonymous rhododendrons) in a dry-summer climate is just that: the dry summer.

Most of the familiar plants in our gardens come from temperate climates, where some dry periods during the summer are normal. They may not like summer drought, and they may sulk, even wilt temporarily, when it happens, but they survive. Rhododendrons are different. Most of the best species originated in the Himalayas or the south-central highlands of China, where the climate is monsoonal. Field notes written by collectors make it clear that up to, and often during, the flowering season the plants are saturated (Kingdon Ward wrote about the "dripping rhododendron forest"). Rainy weather continues through the summer, and in autumn the plants are often saturated again, briefly. The dry season is in winter and early spring.

This is not quite the reverse of our climate. Our rainfall, subject to a maritime influence, is distributed fairly evenly throughout the year, but in summer the combination of drying winds and higher temperatures burns the moisture out of the soil. The combination of dry heat and dry soil kills many rhododendrons east of the Southern Alps. The plants could tolerate one of these conditions, but not both.

Since all rules were made to be broken, exceptions exist. A few rhododendrons are very tolerant of drought. Many old cast-iron hybrids, grown into huge bushes in the gardens of early homesteads, are the evidence. But these old hybrids have small flowers, mostly purplish or harsh cerise-pink, and dull leaves. Some modern hybrids with large flowers and more compact growth have been developed from them (especially in the United States, where breeders have concentrated on developing heat-tolerant plants), but most of the best rhododendrons prefer a cooler and more humid summer than they experience in most of Canterbury. That's probably why they grow so well in Dunedin and Taranaki.

Deciduous azaleas of the Ilam type (so-called "mollis" azaleas) are among the most difficult to establish in drought-prone gardens. This may seem contradictory to some readers. Weren't the Ilam azaleas developed in Christchurch? Yes, they were, and their development is continuing in the Ilam garden now owned by Canterbury University. But Ilam is a special case, with a stream to maintain humidity and heavy, moisture-retentive soil (the well-known "Ilam pug") that takes a long time to dry out.

In my lighter soil, the Ilam azaleas are among the most difficult plants to establish. The English types, particularly the Knap Hill strain which has more subtle colours than the Ilam hybrids, are easier but not much easier. I still have the soft yellow 'Wryneck' and the elegant semi-double 'Venetia', but few others. Numerous azalea species have faded into dust.

All is not lost, however. One deciduous azalea, less well known than the Asiatic *R. molle*, from which the Ilam strain was developed, is highly tolerant of heat and drought. This is the North American *R. occidentale*. If your Latin is up to scratch, you will deduce that this species comes from western North America, where the climate is closer to our own than that of the eastern United States where most of the American azaleas originated.

R. occidentale has a chequered history in cultivation. In the 1850s, when the focus in rhododendron development was on Britain and France, the top hybridists there were dismissing it as useless. Twenty years later, two of the top British hybridists were working hard on it. About the turn of the century, several wonderful plants were produced by crossing it with mollis-type azaleas: plants with names like 'Delicatissima', 'Exquisita', and 'Magnificum'.

Since then, virtually nothing has been done with the western azalea. One of the reasons for this, probably, is that the species has small flowers, later in the season than the Ilam types. Often its buds do not move until after the leaves are well developed, whereas the Ilam azaleas have brightly coloured flowers on the bare branches in October. On the credit side, the flowers of the western azalea are heavily fragrant, and often continue to appear until well after Christmas.

The flowers of the typical form, from northern California and southern Oregon, are white, with a yellow blotch on the upper side. The forms from further south in California often have pinkish flowers. One of these has been identified as a botanical variety, *R. occidentale* var. *sonomense,* from the Napa Range. It has quite deep pink flowers, still smallish, but with a distinctive salmon blotch instead of the yellow one. Several selections from this variety, or from other forms similar to it, have been marketed. 'Stagecoach' and 'Leonard Frisbee' are two available in New Zealand. Both are good, and both are hardy to heat and drought.

Among the elements often overlooked by garden planners is the colour of autumn leaves. The yellow, scarlet, and russet tones can be brighter than any spring flowers.

The western azaleas acquit themselves well in this department. 'Stagecoach' and 'Leonard Frisbee' regularly assume flame and crimson hues in April. The white-flowered Oregon form, which has proved to be one of the most drought-tolerant of all shrubs in my garden, holds its green until later in the month, then turns claret and crimson for a fortnight or longer before shedding its leaves.

Viburnum

Viburnums, flowering and fruiting shrubs closely related to the honeysuckles, are a cosmopolitan lot. None occur naturally in our hemisphere, but about 200 species are scattered throughout the Northern Hemisphere. Most gardeners are familiar with two of the hardiest, the evergreen European laurustinus and the deciduous 'guelder rose'. There are many equally good unknowns, some of which are tropical. Malaysia, for example, has 16 species, almost as many as North America.

Most hardy members of this varied family flower in spring. A few flower in summer, and one, the Himalayan *V. farreri*, produces its clusters of fragrant, pink flowers off and on throughout the coldest months, from mid-April to September. Its more familiar hybrid, 'Bodnantense', a taller and more willowy shrub, flowers mainly from late winter to spring, and is in many New Zealand gardens under false pretences: one of the large wholesale nurseries distributed it for years under the name *V. bitchiuense.*

The two could hardly be more different. 'Bodnantense' has strongly upright stems, and grows faster than an American basketball player. In 10 years or less, it can be four metres tall, even in poor soil.

On the other hand, when *V. bitchiuense* (the name is taken from Japan's western province, Bitchiu, not from the plant's often intransigent behaviour) is not fully satisfied, it grows at a pace that makes a snail look positively cracking. Grumpy or Sneezy or any of Snow White's other five little friends could have seen over the top of my 10-year-old plant even before a nor'wester dropped a birch branch that flattened it.

Like the other winter and spring-flowering viburnums, including *V. carlesii, V. judii* and hybrids such as 'Burkwoodii' and 'Chenaultii', the Bitchiu viburnum is grown primarily for its sweetly fragrant flowers. The summer-flowering viburnums, including the familiar European "wayfaring tree", V. *lantana*, and the guelder rose, *V. opulum*, have scentless flowers but compensate with either brilliant autumn foliage or brightly coloured fruit, or both. One of my favourites is the North American highbush cranberry, *V. americanum*. Like the guelder rose, its close cousin, this species has flattish heads of insignificant greenish white flowers in early summer. Most of the clusters consist of tiny, fertile flowers. Only the outer ring of florets includes the showier sterile flowers, which look a little like hydrangeas.

Such floristic modesty prompts many gardeners to go for the showier cultivar of *V. opulum* called 'Sterile' (pronounced sterilly), with heads made up entirely of sterile florets, but people who plant this will probably never know what they are missing. In the guelder roses, it's not the flowers that create the excitement. It's what happens after flowering that matters.

All three species (the American, the European, and their north Asian cousin *V. sargentii*) grow large clusters of brilliant, semi-translucent red berries that hang on the bushes from late summer well into autumn or early winter. Before falling, their three-lobed, maple-like leaves also turn bright red.

The differences between the three are minor, and if all occurred on the same continent they would probably be regarded as variations on one theme. The major distinguishing factor is that the undersides of the leaves are hairless in the European species, hairy in the American plant, and pubescent in the Asian one. Any of the three is worth growing, but the more compact and twiggy habit of the American bush gives it an edge. The other two are small trees, eventually, although there is a variety of *V. opulum* called *compactum* which grows to only about two metres. Late in the autumn, the fruits of any of these viburnums, especially the American species, are a superb adornment in the garden. Curiously, birds never take them. The berries hang on the bushes until eventually, by about midwinter, they shrivel like raisins. At that stage, the bush displays its solitary vice: the overripe berries pong like dog turds, but only for a few days.

Also worth growing for its fruit, if you can get it, is the Chinese *V. betulifolium*, a tall shrub with arching branches bent almost to the ground in winter by the weight of its many clusters of grapeshot-sized, bright red fruit.

Viburnum lantana belongs in a group of virburnums that have coal-black fruit, and if you are interested in this one you should look for its variety *versicolor*, in which the leaves are brightly

flushed with orange in spring, yellow-green in summer, and butter-yellow, tinged orange, before falling in autumn. The fruits also pass through interesting green and red phases as they ripen.

I have never seen fruit on the most common evergreen viburnum, the old-fashioned laurustinus (*V. tinus*) but if there were any they would also be black. This tough shrub has an image problem: it was often planted in cemeteries. Nevertheless, if you want a hardy, winter-flowering bush you might well consider it. The common form has smallish clusters of white flowers, pink on the outside, but there is a variety with bigger heads. A form with variegated leaves is also obtainable.

Best among the evergreen viburnums, if bold foliage and fruit are your objective, is the Chinese *V. rhytidophyllum*, introduced to cultivation from China about 90 years ago. The specific name is some taxonomist's unromantic way of describing the singular characteristic of this shrub's large, deep green leaves: they are wrinkled and deeply grooved, and unmistakable among all other viburnums.

A form of this species called 'Gold Dust', with yellowish patches on the upper sides of the leaves, was introduced to cultivation in the 1960s, but it would be a mistake to plant it. The variegation looks like a mite attack. Go for the plain green form, but try to sit it among more lightly coloured shrubs. Its dark leaves can look gloomy without the sun on them. The glossy berries are exciting. As in the wayfaring tree, they pass through several colour phases, including green and crimson, before turning coal black. In late summer, the bush is apt to be covered with clusters of fruit in all phases of ripeness, a Joseph's coat of colours in contrast to the sombre leaves.

RNZIH Institute

Institute Update

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Notable Trees Committee Box 28040, Wellington

RNZIH/NZAA AGM and Conference
Christchurch N.Z. 13 - 15 October 1995

What can one say about the success or otherwise of a conference that you have helped to organise!!

From the 110 people that attended and the interest in the speakers and field trips, I have to conclude that people enjoyed it. It was very pleasing to see such a large number, particularly from the North Island.

Participants were welcomed to Christchurch and the conference by the Maori group from St. Albans Primary School. It was thought the group would be about 10 pupils. There was a little panic within the organising committee when it learnt that the group was to be about 40. A bigger bus was quickly ordered.

RNZIH and NZAA Executives met on the Thursday to discuss a wide range of issues. These included :

- The long term relationship between the two organisations. NZAA are considering whether to become a New Zealand chapter of the International Society of Arboriculture (ISA). The issue will be debated over the next twelve months with a final decision by the next AGM. Whatever the outcome of this move, it was agreed that the relationship between the RNZIH and NZAA will remain close and that joint conferences will continue.

- The future of New Zealand's Open Garden Scheme. National Executive decided to establish a separate charitable company to run the scheme with its own board of directors. See article elsewhere in this issue.

- The development of an improved tree evaluation method by Ron Flook. This work has now been accepted by the New Zealand Standards Association, who will take on the project and work towards a New Zealand standard. The RNZIH and NZAA have closely supported this work.

One other item is worthy of mention. The Chairman of the RNZIH National Executive, Mike Oates, and the NZAA President Frank Buddingh' both stepped down from their respective offices at the AGM's of each organisation. All members agreed they had done a great job over the years and they were formally thanked for their contributions. Congratulations go to Brian Gould the new NZAA President, and David Shillito, Chairman of the RNZIH National Executive.

A dual programme of horticultural and arboricultural talks and field trips ran throughout the conference. This proved very successful apart from the occasional difficulty of choosing between the two. All talks and trips were of top quality. That is more than can be said for the bus that took arborists around Christchurch looking at trees. It was good luck (or good plan-

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ning) that it broke down very close to the conference venue (outside a pub) on the way back from the tour.

On Saturday, three gardens were visited that are currently part of the Open Garden Scheme. The weather was fine and delegates were impressed with the quality of all three. At the same time the climbing jamboree was taking place in the Christchurch Botanic Garden. The jamboree was run to international standards and drew a large crowd of onlookers. It was an ideal shop window for the professionalism in this developing industry.

One of the high points of the conference was the official registration of Riccarton Bush under the RNZIH Notable Trees Scheme. Riccarton Bush is the only surviving remnant of the forest vegetation that once covered the Canterbury Plains. Dr. Brian Molloy, a member of the Riccarton Bush Trust, accepted the plaques on behalf of the Trust and then took members on a guided tour. Dr. Molloy has recently edited a book on the botanical and human history of the area.

Friday evening saw the presentation of awards for both organisations as well as the announcement of the new Peter Skellerup Plant Conservation Scholarship. It was a great honour to have Peter and his wife Evelyn present for the announcement and signing of the Trust Deed.

The 1995 Banks Memorial Lecture was given by Hugh Wilson, a noted botanist, environmentalist and author. His illustrated talk on the botany of Banks Peninsula was fascinating and educational for people who know the area as well as visitors.

The final session on Sunday morning saw a panel discussion with representatives from all groups at the conference. This proved most interesting and allowed people to ask panelists questions on their area of expertise. A very informal and fitting end to a most enjoyable conference.

We look forward to another great conference in Auckland in 1996 and wish the organising committee well.

David Shillito
Chairman of National Executive

RNZIH Awards and Honours

The RNZIH runs a comprehensive system of awards and honours for both members and non members. There are also two major scholarships awarded annually, each for several thousand dollars. For detailed information on these please write to the RNZIH for a copy of the Awards and Honours booklet. The cost is $5. The awards are briefly as follows :

Associate of Honour (AHRIH)
Awarded to persons who have given distinguished service to horticulture in New Zealand. Only 60 people can hold the award at any one time.

Fellow (FRIH)
Awarded to members who have made a significant contribution to horticulture and the Institute.

Sir Victor Davies Award
Awarded annually to a young person who has demonstrated an outstanding plant knowledge. The recipient receives a certificate plus monetary prize.

Plant Raisers' Award
Awarded to an individual or organisation who has raised in New Zealand a cultivar(s) of outstanding merit.

Ronald Flook Award
Awarded by the New Zealand Arboricultural Association to a person who has contributed to the advancement of arboriculture in New Zealand.

D.D. Baker Memorial Award
This award is designed to assist members undertake research or study which will contribute to the advancement and benefit of horticulture in New Zealand. The award in 1996 will be approximately $3000.

Peter Skellerup Plant Conservation Scholarship
A scholarship granted for research, field work, publication, propagation and/or cultivation of plants and any other activity likely to promote and assist the conservation of New Zealand's indigenous and exotic plant genetic resources. The award in 1996 will be approximately $5000.

NOTE THAT APPLICATIONS FOR ALL AWARDS CLOSE ON 30 APRIL 1996
(The closing date has been extended this year because of the lateness of this first issue of the Garden Journal)

Institute Update

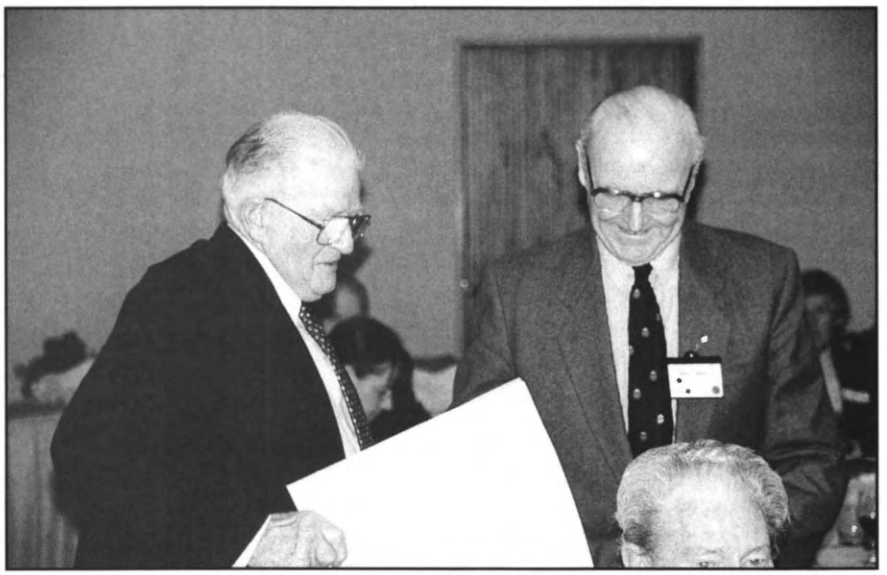
1995 RNZIH Awards

The 1995 RNZIH awards were presented at an awards ceremony at the Annual Conference in Christchurch last October.

Associate of Honour (AHRIH)

Awarded to persons who have given distinguished service to horticulture in New Zealand. Only 60 people can hold the award at any one time.

Three awards were made :



John Taylor, President of the RNZIH presenting an Associate of Honour to Ron Gordon

Ron Gordon of Taihape

Ron Gordon has spent almost 80 years devoted to the study and enjoyment of plants. He is responsible for the transformation of "Rongoiti" from bare farmland to an arboretum of international importance. As a member of the International Dendrology Society he made several trips to Asia and brought back a range of rare trees and shrubs, many of which have not been previously seen in New Zealand.

He is also an enthusiastic plant breeder, his best known plant being Rhododendron 'Rubicon'.

He was a foundation member of Pukeiti, a board member and chairman for 6 years, and past board member and chairman of the New Zealand Rhododendron Society. He is an honorary life member of both. He also served on the Plant Management Committee of Eastwoodhill Arboretum.

Vonnie Cave of Wanganui

Vonnie Cave has had a lifelong involvement with horticulture in New Zealand. With her late husband she developed a large garden on sand dunes near the Wanganui coast and has continued to expand the garden and its range of plants.

She is an outstanding plant photographer, having received a fellowship from the Photographic Society of New Zealand for her work. Her photographs have been used extensively in the New Zealand Camellia Society bulletin as well as the book 'Private Gardens of Wanganui, Rangitikei, and Manawatu', which she also wrote.

She has a wide knowledge of camellias and has received many awards at local and national level for her blooms. She was a member of the Council of the Camellia Society for many years and is currently serving a second term as national president.

Her wide knowledge of plants and photographic skills have also been combined in her work as a tour leader for gardening tours. She has a particular interest in the wildflowers of Western Australia and has lead tours there, most recently in the spring of 1995.

Ron Flook of Nelson

Ron Flook arrived in New Zealand in 1979 and for five years was senior landscape architect for the Wellington City Council. During that time he helped to transform the inner city with innovative projects such as Midland Park, the planting design around the Michael Fowler Centre, as well as work in the Botanic Garden. After leaving Wellington City council he worked as a private consultant and was commissioned for major projects including Cornwall Park in Auckland, Manukau Civic Centre, and the Millbrook Country Club in Queenstown. He was also elected President of the New Zealand Institute of Landscape Architects, serving in this role for 4 years.

His interest in trees saw him become involved in the work of the RNZIH Notable Trees Committee, and it was here that he had such a major impact on tree registration and protection. He designed and edited "A Tree Evaluation Method for New Zealand' which became used by many local authorities throughout New Zealand. He is currently working on a new standard for

tree evaluation. He also compiled and edited a booklet "An Introduction to the Notable Trees of New Zealand', published by the RNZIH in 1994. As part of this work he has spent a great deal of voluntary time producing and presenting public submissions on tree related issues.

The New Zealand Arboricultural Association established the Ronald Flook award in 1993 to recognise people who have contributed to the advancement of arboriculture in New Zealand.

Fellow FRIH

Awarded to members who have made a significant contribution to horticulture and the Institute. Four awards were made.

Peter Arthur of Hastings, farmer, gardener, tree planter, promoter of horticultural activities, and seller of horticultural books.

Alice Lloyd-Fitt of Dunedin, a professional horticulturist for 15 years, spending 8 years at Government House in Auckland, and currently collection supervisor at the Dunedin Botanic Garden. She is a keen supporter of the Institute with a particular interest in garden history. Currently president of the Dunedin Garden History Group.

Gail Loughrey of Dunedin, has been involved in the Otago Branch for several years, assisting on the organising committee of the 1993 conference. Is a national orchid judge and a committee member of the Dunedin Orchid Society.

Martin Toop of Wellington, formerly lecturer in science at the Christchurch College of Education. He is now a teacher at Wainuiomata College. Was responsible for training horticultural teachers, and was involved in the development and promotion of horticulture in schools.

Ronald Flook Award

Awarded by the New Zealand Arboricultural Association to a person who has contributed to the advancement of arboriculture in New Zealand. The award this year was to **Albie Elwood-Smith of Picton** for his work protecting and registering trees in the Marlborough area.

D.D. Baker Memorial Award

This award is designed to assist members undertake research or study which will contribute to the advancement and benefit of horticulture in New Zealand. Two awards were made in 1995 :

Beth Watson of Marton received $2000 to assist with a research project looking at improving accessibility to gardens for the disabled and elderly. The project involved visits to gardens in both the U.K. and New Zealand.

Frank Buddingh' of Dunedin received $1200 to assist with a trip to the U.S.A. to attend a tree conference and to carry out a study of growing systems for advancing trees in containers.

Cockayne Memorial Medal

Awarded to the candidate completing the National Diploma in Horticulture (Hons.) in Amenity Horticulture, with the highest average mark in Subjects 15-21 and an average mark of 70% or more. Recipient, **Jayson Kelly of Dunedin.**

John Taylor presents Jayson Kelly with his medal

The Pleasures of Crocus

Story and photographs by Charlie Challenger

1. *C. imperati subsp. suaveolens. A fine winter flowering crocus*

One of the activities of the RNZIH has been to assemble a list of NZ Plant Collections, which collates information on people and institutions who hold collections of particular groups of plants. Based on the scheme run by the English National Council for the Conservation of Plants and Gardens, it is intended to ensure that garden plants and threatened New Zealand plants are not lost but retained in cultivation for future use.

My personal interest in crocus goes back nearly fifty years, when I bought a range of species from Ralph Cusack, then well known as a specialist in bulbs. I was living in rather comfortless digs, and decided that crocus in pots could improve my surroundings. In due course they all flowered in the window of my bed-sit. The range of bulb coats, flower seasons, flower structures and colours revealed by those pots was fascinating and I was hooked! My literary mentor was E.A. Bowles, for his book "Crocus and Colchicum" and the chapters on crocus in "My Garden in Spring", the first volume of his trilogy, stirred even greater enthusiasm. Bowles was capable of inspiring as well as instructing, and although his style reads somewhat flowery today, he stimulated as many people then as Christopher Lloyd does today.

It was many years before I really got to grips with crocus, although my interest in them never abated. Shortly after I came to New Zealand in 1956 I was stimulated by Jean Foweraker, and her garden at Cashmere on the hills above Christchurch was a plantsman's paradise. In particular, she had crocus species naturalised throughout the garden. When the Canterbury - now the New Zealand Alpine Garden Society - was founded in 1960, Jean was a regular exhibitor with her "basket of cut flowers", rarely without its complement of crocus species. Her monthly lists of "Plants in Flower" in the Society's Bulletin further stimulated members with the value of crocus. Mary Evans, another founder member of the Society, was another of those infected by Jean Foweraker, and she later became totally absorbed by crocus.

When I retired in 1982, my wife and I decided to revert to my old loves - nursery work and alpines - and we established Kereru Nursery as a hobby occupation. One of our first purchases was a wide range of crocus species, imported from Potterton and Martin in England. We continued importing them in quantity for several years, and this was the foundation of our stock of crocuses at the nursery. More rarities originated from the superb seed lists of Jim and Jenny Archibald, particularly the newly-discovered species of crocus from Turkey. Our first offerings of crocus at the nursery were six autumn flowering species in 1986, and the numbers offered have continued to increase year by year until, in our final catalogue we listed over 70 different species and varieties. Obviously, we have continued the good work of spreading "Crocus fever".

Our numbers were also increased in a further, sad, way. Mary Evans knew that she was dying, and before her death in 1991 made arrangements to transfer her crocus collection to us. She had been collecting for many years, had world-wide contacts with crocus specialists, and had collected in the field in Greece

2. *A fine form of Crocus sieberi subsp. sieberi collected in Crete by Mary Evans.*

and Crete in 1973 and 1978 - in fact one of the finest *Crocus sieberi* ssp. *sieberi* forms we hold (Photo 2) was collected in Crete by Mary. Our agreement with Mary, on accepting her collection and amalgamating it with our own, was that we would maintain, expand, and document our joint collection as part of the New Zealand Plant Collections List. This article is the first public contribution to that end.

My first task was to verify Mary's collection - unfortunately many of the labels had become fragile and broken, with critical parts of the name missing. Mary's documentation was excellent, so with its aid, and the keys and descriptions in Brian Mathew's monograph, "The Crocus" (Batsford, 1980), I have almost completed this task.

3. *Variations in the external striation of C. etruscus seedlings*

Although there are still about 80 batches awaiting final identification, most appear to be only duplicates. I do not think there are any more significant additions to be made to the total list of species and sub-species held.

The other generous contribution I must acknowledge here is the gift by Mrs Betty Laurenson of the beautiful plates from George Maw's magnificent "A Monograph of the genus Crocus" (Dulau, 1886). Although Brian Mathew's book is invaluable, the plates, being produced by techniques which involve screening and multicolour printing, are less clear than Maw's engraved plates where fine detail is concerned. The detail of stigma and stamens, corm coats, and leaf cross-sections in particular - all of which are essential in identification - is better in Maw's plates than Mathew's, even though in some cases they were made from the same drawings. Nowhere is the value of "Maw" shown more clearly than in the detail of corm coats. Almost all crocus species have characteristic coats, and some of them - *C. laevigatus* for example - are so distinct that they cannot be mistaken for anything else. In others, although different, they

4. *C. cambessedesii, one of the smallest flowered crocus*

5. *C. banaticus has 3 long and 3 short petals, and a greatly subdivided purple style*

6. *Style divided into 6 in C. olivieri subsp. balansae*

are less clearly differentiated, particularly when you haven't "Got your eye in". Brian Mathew's word pictures are very accurate and precise, but it does take time to grasp his precision of words. To him, the differences between "membranous" and "papery", or "coarsely reticulated" and "very coarsely reticulated" are quite clear; he has handled thousands of bulbs. You have to learn the precision of his language. But whilst you are doing so, one picture - with the clarity of Maw - is worth a thousand words. Maw's book is a very expensive rarity, so Betty Laurenson's gift was of real value, both in itself, as well as for verifying identifications.

Some of the rare species held by Mary Evans were present only as single specimens, but in almost all cases, corm numbers have been bulked markedly since 1991. Whilst crocus sometimes may be bulbs of dry and barren landscapes, they do respond to loving kindness, and in particular careful use of fertiliser gives them a real zest for life, multiplying much more freely. Today, the collection is in good heart, accurate, and well documented. Mary Evans would be pleased.

So what is it that stirs the collector to cosset his love? As Shakespeare said, "Custom cannot cloy her infinite variety" - even though he was writing of a different sort of love! It is certainly not a case of "A crocus is a crocus is a crocus" for their variety is - well, not quite infinite, but certainly very wide. The crocus genus is widely distributed in the northern hemisphere, extending from 10 degrees west, in Portugal and North Africa, to 55 degrees east, with odd species scattered as far east as the Ala Tau Mountains in Western China. The majority of species occur in the Balkans and particularly Turkey, where many new species have been collected since the 1950s. Northwards they extend as far as Krakow in S. Poland, and southwards into southern Jordan and Iran. Although this distribution area is so wide, its climate is largely a dry summer, winter rainfall regime, which makes crocus so suitable for cultivation in eastern and central-southern New Zealand. Nevertheless, not all crocus species appreciate summer dry conditions, particularly those from open woodland habitats. *Crocus banaticus*, *C. scharojanii*, the unpronounceable *C. cvijicii*, and *C. nudiflorus* are all examples of plants which should not be dried out in summer.

Perhaps the most obvious of the "infinite variations" is the broad division into spring and autumn flowering species. In fact the season extends from early February until late September, with the bulk of species blooming in either March and April, or June till August. A few species such as *C. imperati* and *C. laevigatus* have quite prolonged seasons over the winter months if the weather is kind.

The earliest of all is *C. scharojanii*, the only autumn flowering species with yellow flowers, followed in late February by *C. vallicola*. This creamy-white species, with yellow spots in the throat and purple veins to the petals, has distinct petal tips. They narrow abruptly and then extend into a sharp

point - the only crocus which does so. In March there is a long succession of species in flower including *C. kotschyanus*, *C. banaticus*, *C. cancellatus*, *C. hadriaticus*, *C. nudiflorus*, and *C. pulchellus* and the closely related *C. speciosus*. In April *C. medius*, the beautiful pair, *C. longiflorus* and *C. tournefortii*, *C. serotinus* and its sub-species, and *C. goulimyi* are amongst many which can be relied on, whilst the yellow-throated, white flowered *C. ochroleucus* draws the season to a close, flowering through into May.

Spring can start very early if the weather is mild. *C. laevigatus* occurs in a wide range of forms, collected from its various habitats in Greece, Crete and the Greek Islands. So flower colours and sizes vary widely and so do the flowering seasons, from May till August. *C. imperati* is much less variable, but its lavender-purple flowers with purple striped, biscuit-coloured external petals, is one of the joys of the winter months (Photo 2). True spring flowerers start with *C. sieberi* and its forms, *C. corsicus*, *C. dalmaticus*, the yellow flowered *C. korolkowii* and *C. gargaricus*, and many others. *Crocus tommasinianus* and its later-flowering forms, 'Whitewell Purple' and 'Ruby Giant', together with the multicoloured varieties of *C. chrysanthus*, form the main body of flowering in many gardens. The season comes to a close with the late-flowering varieties of *C. vernus*, the mountain crocus of the European Alps. Although crocus do not commonly interbreed, some hybrids exist, and the September-blooming *vernus* variety, 'Harlem Gem', shows distinct biscuit colours in its external petals, which originate from the genes of *C. tommasinianus*.

Flower colours are usually white, yellow, and various shades of purple. There is considerable variation in detail though, with white, yellow and purple throats, distinct white or yellow eyes, a multitude of different stripes on the interior and exterior of the flower, and different internal and external colours overall. All are important in identification. True blue is generally lacking, but a few recently discovered Turkish species, such as *C. baytopiorum* and *C. abantensis* are close to being china-blue. Unfortunately both are still uncommon in cultivation. The most brilliant blue, in my opinion, is *C. biflorus* ssp. *pulchricolor*, but not all forms are equally beautiful. This variability is characteristic of crocus and occurs in most of their characters - size, colour (Photo 3), corm coat, and leaf width. It is important that identification does not depend upon a single specimen. The variation in flower size between species is considerable; some, such as cultivars of *C. speciosus*, are up to 10cm across, whilst the smallest, *C. cambessedesii* (Photo 4) and *C. danfordiae*, are only 20-25mm across.

Stigma and stamens are markedly different in the various species and are most important for identification. *C. banaticus* not only has three long and three short petals - it is the only species with this character, and used to be called "*C. iridiflorus*" as a result - but also has a unique purple stigma (Photo 5). It is very finely dissected, the basically triple divided stigma of crocus overall being split into very many segments. Stigmas

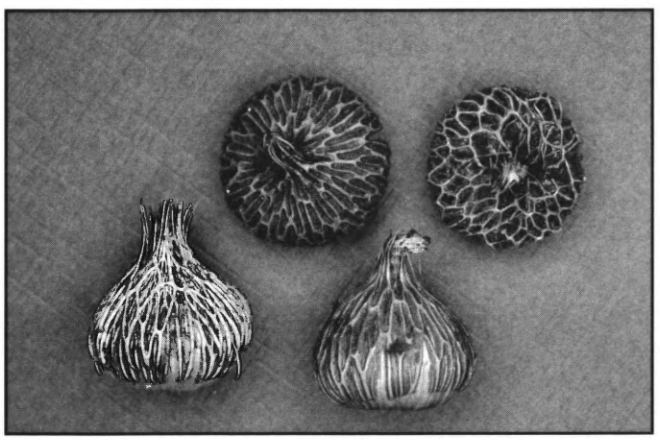
7. Black stamens, covered with yellow pollen in C. biflorus subsp. melantherus

vary from being triple with frilled tips (*C. sieberi* and *C. chrysanthus*) 6-lobed (*C. olivieri*) (Photo 6), to finely dissected (*C. banaticus* and *C. graveolens*). Incidentally, *C. graveolens* is the only crocus with an unpleasant scent.

Stigma colours vary from white through cream and yellow to bright orange and red, and the purple of *C. banaticus*. Several species have considerable decorative value due to the stigma colour. In *C. medius* and *C. nudiflorus* the contrast of rich purple petals and scarlet stigma is very striking, but that of the pure white petals and scarlet stigma in *C. niveus* and *C. cartwrightianus albus* have even greater punch. Stamens are usually yellow or white, but in a few species such as *C. hyemalis*, and *C. biflorus* ssp. *melantherus* (Photo 7) they are purplish black. The well-known spring crocus, *C. chrysanthus*, frequently has distinct black, backward-pointing "barbs" on the stamens (Photo 8). The colour of the filaments, on which the stamens are mounted, is either yellow or white, but occasionally, as in *C. pestalozzae*, there are characteristic black spots at their base. E.A. Bowles likened them to specks of dirt dropped into the throat of the flower.

Corm coats are tremendously varied, all the way from coconut matting to egg-shells and tissue paper in appearance. A 10X magnification hand lens is an essential tool in diagnosis. Without it, the fine detail is much less obvious. If you "get your eye in" by examining very distinct species such as the coarse coated *C. angustifolius* (Photo 8) or *C. cancellatus*, and the papery *C. ochroleucus* (Photo 9), you can then progress to separating, say, *C. longiflorus* and *C. medius*, or *C. imperati* and *C. dalmaticus*, in which the differences are much less marked. All these species have fibrous coats, but with differences in their reticulate or parallel nature, and the fineness of the fibres. Others, like *C. laevigatus*, are quite unmistakable. It has a hard coat like an egg shell, which splits into triangular points at the base. Often, a group of species will have similar coat characters. For example,

C. chrysanthus, *C. biflorus*, *C. pestalozzae*, *C. speciosus* and *C. pulchellus* all have corm coats in which the coat at the base of the corm separates into rings. The papery coats of *C. ochroleucus* and *C. kotschyanus* can be very similar, but then distinction is possible on corm shape. Both are flattened, but *C. kotschyanus* is markedly irregular in shape. To many, this may be esoteric trivia, but I can assure readers that to the bulb nurseryman it is essential know-how for his trade; there is ample scope for a photo-atlas of corm coats in crocus, and I am progressing towards it. Such is the incidental value of a crocus collection.



8. *Coarsely netted corms in C. angustifolius*

Leaves in crocus species vary in number, width, venation, and shape, and when added to the other elements of identification already discussed, can help to confirm or deny an identification. The widest leaf of all is *C. vernus*, which can be 8mm wide; many compete for the title of being the narrowest, and *C. fleischeri*, *C. pestalozzae*, and *C. danfordiae*, as examples, all have leaves narrower than 1mm. Leaves are usually two-faced, with a distinct upper and under surface. In all except *C. scardicus* and *C. pellistericus* the upper surface has a pale stripe down the centre. The underside has various grooves and veins, beautifully depicted in Maw's plates, often characteristic of a species. The only species without them are the various relatives of *C. kotschyanus* - *vallicola, ochroleucus, scharojani* and *karduchorum*. In these, the leaf is rather like an H girder on its side, so that upper and under surfaces are similar. Not all species have leaves which emerge with the flowers, and all the autumn-flowering species, except *C. ochroleucus* and *C. serotinus* and its sub-species, have naked flowers. Leaf length at flowering can be a feature of identification too.

So it can be appreciated that to the crocus fiend, their very variety is a feature of interest as much as anything else, and when coupled with their garden value - particularly if your garden is small - they are very desirable plants. Cultivation is not difficult, and only a few are not good "doers". Some are slow to multiply vegetatively - the Cretan forms of *C. sieberi*, for example, multiply very slowly compared with those from Greece. Seed raising is quite straightforward, and in most species the ripe capsules appear above ground, looking like fat matchsticks, between November and January. A few, such as *C. caspius* and *C. hadriaticus*, ripen their seeds just under the surface, and are often held in the un-opened seed capsule for some time. Seed should be collected and sown immediately, surfacing the pans with grit; flowering normally occurs in the third year. Generally, the needs of crocus are limited. A friable well-drained soil in a sunny spot, the occasional light dressing of tomato fertiliser, moisture during their growth period, and particular attention to the needs of woodland species mentioned earlier. In areas which are damp during the dormant season it may be necessary to provide overhead protection for species originating in dry arid regions. Otherwise - just enjoy!

9. *Flat, papery corms in C. ochroleucus*

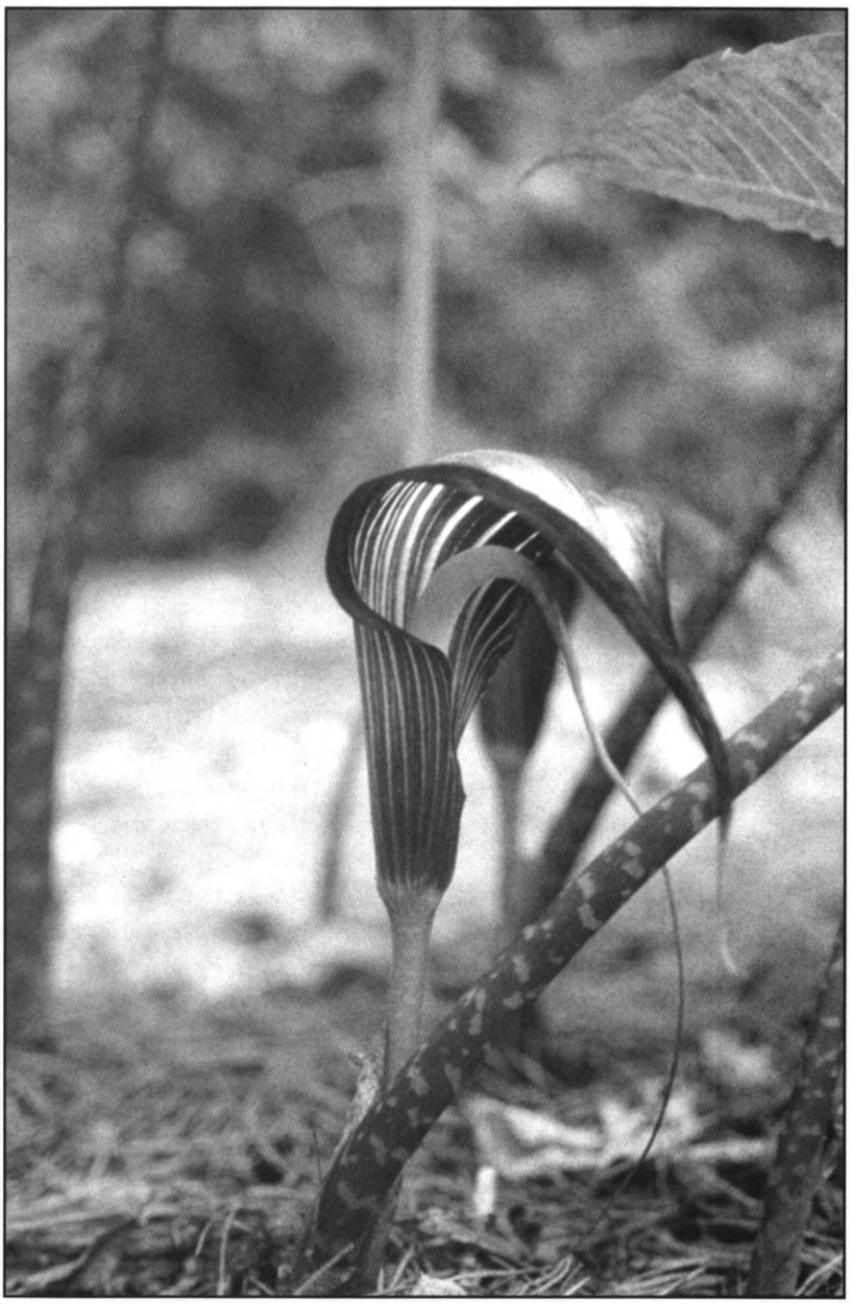
A list of taxa held in our collection is appended for interest. Those listed in brackets are taxa not held, but known to science. Items marked * have been introduced to science since Mathew's monograph was published in 1980.

C. abantensis
(C. adanensis)
C. aerius
C. alatavicus
C. aleppicus
(C. almehensis)
C. ancyrensis
C. angustifolius
C. antalyensis
C. asumaniae
(C. autranii)
C. banaticus
C. baytopiorum
(C. biflorus subsp. albocoronatus)*
C. biflorus subsp. adamii
C. biflorus subsp. alexandri
C. biflorus subsp. biflorus
(C. biflorus subsp. crewei)
C. biflorus subsp. isauricus
C. biflorus subsp. melantherus
(C. biflorus subsp. nubigena)
(C. biflorus subsp. pseudonubigena)
C. biflorus subsp. pulchricolor
(C. biflorus subsp. punctatus)
(C. biflorus subsp. stridii)
(C. biflorus subsp. tauri)
C. biflorus subsp. weldenii
(C. boisssieri)
C. boryi
(C. boulosii)
C. cambessedesii
C. cancellatus subsp. cancellatus
C. cancellatus subsp damascenus
C. cancellatus subsp. lycius
C. cancellatus subsp. mazziaricus
C. cancellatus subsp. pamphylicus
C. candidu
(C. carpetanus)
C. cartwrightianus
C. cartwrightianus 'albus'
C. caspius
C. chrysanthus
C. chrysanthus cultivars:
C. 'Blue Bearl'
C. 'Cream Beauty'
C. 'Goldilocks'
C. 'Gypsy Girl'
C. 'Ladykiller'
C. 'Purity'
C. 'Snow Bunting'
C. 'Zwanenburg Bronze'
C. corsicus
C. cvijicii
C. cyprius
C. dalmaticus
C. danfordiae
C. etruscus
C. flavus
C.. flavus subsp. disssectus)
C. flavus subsp. flavus
C. fleischeri
(C. x fritschii)
C. gargaricus
(C. gilanicus)
C. goulimyi
C. graveolens
C. hadriaticus subsp. hadriaticus
(C. hadriaticus subsp. lilacinus)
C. hadriaticus subsp. parnassicus
(C. hartmannianus)
(C. hermoneus subsp. hermoneus)
(C. hermoneus subsp. palaestinus)
(C. hyemalis)
C. imperati subsp. imperati
C. imperati subsp. suaveolens
C. x jessopae
C. karduchorum
(C. kerndorfiorum)*
C. korolkowii
C. kosaninii
C. kotschyanus subsp. cappadocicus
(C. kotschyanus subsp. hakkariensis)
C. kotschyanus subsp. kotschyanus
C. kotschyananus subsp. kotschyanus var. leucopharynx
C. kotschyanus subsp. suworowianus
C. laevigatus
(C. leichtlinii)
C. longiflorus
C. malyi
(C. mathewi)*
C. medius
(C. michelsonii)
C. minimus
(C. moabiticus)
C. nevadensis
C. niveus
C. nudiflorus
C. ochroleucus
C. olivieri subsp. balansae
C. olivieri subsp. istanbulensis
C. olivieri subsp. olivieri
C. oreocreticus
C. pallasii subsp. dispathaceus
(C. pallasii subsp. haussknechtii)
C. pallasii subsp. pallasii
C. pallasii subsp. turcicus
(C. paschei)*
(C. pelistericus)
C. pestalozzae var. caeruleus
C. pulchellus
C. reticulatus subsp. hittiticus
C. reticulatus subsp. reticulatus
C. robertianus
(C. rujanensis)*
C. sativus
(C. scardicus)
C. scharojanii
C. serotinus subsp. clusii
C. serotinus subsp. salzmannii
C. serotinus subsp. serontinus
C. sieberi subsp. atticus
(C. sieberi subsp. nivalis)
C. sieberi subsp. sieberi
C. sieberi subsp. sublimis var. tricolor
C. sieberi x C. veluchensis
C. sieheanus
(C. speciosus subsp. ilagazensis)
C. speciosus subsp. speciosus
C. speciosus subsp. xantholaimos
(C. x stellaris)
C. thomasii
C. tommasinianus
C. tournefortii
C. vallicola
C. veluchensis
(C. veneris)
C. vernus subsp. albiflorus
C. vernus subsp. vernus
C. versicolour
C. vitellinus

Arisaema

Subtle Beauties for the Woodland

by Eric Walton



1. *Arisaema speciosum*

Interest in members of the genus *Arisaema* has increased markedly in recent years, particularly as more species become available. The name *Arisaema* means 'blood arum', presumably because of an affinity to the genus *Arum* and the spotting on the stems of two of the earliest-described species. The genus is comprised of approximately 170 species and they are primarily found in the Himalayas, China and Japan, although a number of species are found in southern India, South East Asia, north-eastern Africa and North America. What appeals to me is the range of inflorescence forms and colourations, the range of leaf morphologies and the marbled patterns on stems of some species.

Arisaema tend to be woodland plants and many are quite hardy in this country. I grow about 25 species in my Waikato garden, where short duration ground frosts of -5 to -8 °C are not uncommon in winter. *Arisaema* are not difficult to grow as long as several key requirements are met. They need a well draining, moisture retentive soil. If they are allowed to dry out during the summer, they tend to go dormant prematurely and are therefore slower to increase in size and flower. They also require a dappled woodland situation. The brighter the light, ideally without burning the leaves, the better and bigger the plants grow. As a general statement the more divided the leaf the more sun they can take without damage. I have found *A. flavum* and *A. tortuosum* grow quite well in full sun, given enough water, but they do not appear to set seed as well as those growing in shade, possibly because either the pollen or stigmas desiccate. *Arisaema* respond well to feeding, but I find a little often is best. I understand for nearly all species I grow,

the tuber is replaced annually and the better the plants do, the bigger the tuber grows.

Arisaema can also be grown in pots. The important thing to remember is that the pot needs to be quite a bit larger than the tuber, say four to five times the diameter of the tuber, if you want to optimise growth that season. Also, plants need to be fertilised more regularly when potted. It is often stated that potted tubers should be repotted annually for optimum growth as A*risaema* soon exhaust the potting mix. I have a feeling that tubers multiply more rapidly when grown in a pot and I suspect that is because I fertilise my potted plants more often than those in the ground. I do have a friend however, who thinks I am a little reckless growing my *Arisaema* in the ground! The main advantage to me of growing them in the ground is that, because of the 'buffering capacity' of the soil, the plants are more tolerant of missed waterings and fertilisations. To be honest, the most difficult thing about growing *Arisaema* is procuring the plants, although with a little perseverance about seven species can be purchased from specialist nurseries in New Zealand.

If you live in an area much colder than the Waikato, it is probably a good idea to mulch your plants during winter until you get a feeling for a species' hardiness. British books, such as the Royal Horticultural Society Dictionary of Gardening, can be useful here, in that they give the relative hardiness of a number of species. If you decide to store your *Arisaema* tubers out of the ground over the winter, whether that be because of cold or wet, keep them in a damp, open medium (for example, old potting mix) to stop them drying out. Small and seedling tubers are particularly susceptible to desiccation.

Arisaema come up in spring in one flush of growth. If they are damaged at that time (mechanically or by frost) you will probably have to wait until the next growing season before that growth is replaced. Although frost has never been a problem for me (touch wood!), be aware also that late-spring frosts can damage the shoots of the species that come up in early spring. Different A*risaema* come through the ground at different times, the earliest species in August (for example, *A. ringens* and *A. speciosum*) and the latest in late November/early December (for example, *A. candidissimum*). Most species flower soon after they come through the ground. Female inflorescences can last up to about six weeks, much longer than male inflorescences, particularly if not pollinated.

One of the peculiarities of *Arisaema* is that most species are paradioecious. That means that their gender is not fixed, but individuals switch between producing male and female inflorescences depending on how well they are growing. Small plants tend not to flower. As they increase in size, the first inflorescence tends to be male. As the plant continues to grow, a change takes place and subsequent inflorescences are female. If a female-inflorescence producing plant becomes resource depleted, it may not flower the following season or may produce a male inflorescence. Several scientific studies have been conducted describing this phenomenon. It is thought that this reproductive strategy ensures only moderately-performing plants that could not mature seed, can produce male inflorescences.

2.

3.

2. *Top right - Arisaema sikokianum*
3. *Right - Arisaema candidissium*

One of the 'disadvantages' of growing your plants really well is that all your plants will become female, which is not a problem in itself, except if you want seed to distribute to friends! I have a clump of *A. serratum* which is now all female. A Japanese botanist suggested that I should jump on them as they are coming through the ground and the following year I would have some male inflorescences! I felt that 'treatment' was a little too severe for me! An alternative, which works really well for *A. amurense*, is to feed the plants well so that they offset rapidly. The small offsets produce male inflorescences whose pollen can be used to pollinate the female inflorescence of the parent tuber.

Male inflorescences can easily be distinguished from female inflorrescences. Male flowers are discrete entities at the base of the spadix whereas female flowers are tightly grouped together and look not dissimilar to a small pineapple. The female flowers are easily pollinated by transferring pollen (the pollen, a powder, sometimes collects at the base of the spathe where it joins the spadix) with a small paint brush or, if one tends to the 'one-off' approach, the spadix of the male inflorescence can be broken off and inserted into the female inflorescence. I prefer the former method. *A. tortuosum* and *A. flavum* are two commonly grown species with bisexual inflorescences (both male and female flowers present, male flowers grouped above the female flowers) and self pollination is the norm.

A digression - *Arisaema* being members of the family Araceae, have inflorescences comprised of spadices, on which the actual flowers are borne, and spathes, modified leaves that surround the spadices. In the closely related arum or calla lily, *Zantedeschia aethiopica*, the white part of the 'flower' is the spathe and the central orange 'spike' is the spadix. The spathes in *Arisaema* are generally combinations of green, brown and white. Also in *Arisaema*, both spathes and spadices can have extensions, though the longest are found on the latter, and are thought to be associated with attracting pollinating insects. For example, in *A. costatum*, the spadix extension (appendix) can be up to 50cm in length. The leaves of *Arisaema* can be either trifoliate (with three leaflets like clover), pedate ('foot-like', with the leaflets arising from a broad base like *Helleborus niger*) or radiate (many leaflets radiating from a common point like spokes on a wheel). The stems are often marbled or spotted with white, red and brown and are particularly beautiful, in, for example, *A. serratum*.

Arisaema are easily propagated by separation of the tubers or from seed. When digging tubers in winter, remember that there can be considerable increases in size over the growing season, so dig widely. Be aware also that some species (for example, *A. concinnum* and *A. exappendiculatum*) produce bulbils on rhizomes and that those bulbils can be some distance from the parent tuber.

To grow *Arisaema* from seed, wash off all of the fruit pulp from the seed. This is for two reasons, one, it contains inhibitors that slow germination and, two, the remaining pulp will rot and this can affect the young seedlings. Sow seed in a freely draining mix, keep moist and warm. *Arisaema* appear to be like *Lilium* in that there are two types of germination. Some species produce a seedling leaf immediately. In the other (for example, *A. urashima*) a small tuber is produced and that remains dormant until the following season. Seeds of species that 'germinate immediately' should produce leaves in six to eight weeks. Species with 'delayed germination' need a period of warmth, then a period of chilling and then warmth again before growth appears above the ground. It is probably best to let nature take its course, because the difficulty is knowing the specific requirements of a particular *Arisaema* received as seed. Seedlings should flower in three to five years if given good conditions.

4. *Arisaema triphyllum*

The most commonly grown and readily available *Arisaema* is the Japanese species *A. ringens*. This species has large glossy, trifoliate leaves and is often erroneously distributed as *A. triphyllum*. The spathe is hooded with the opening pointing downwards. It has been described as looking like a helmet or a fat snail! *Ringens* means 'gaping, with two lipped mouth' and presumably refers to the opening of the spathe. This plant does very well in quite deeply shaded situations and under those conditions the leaves can be up to 50cm across. A true *A. triphyllum* is a smaller plant from the United States and also has trifoliate leaves (hence the specific name *triphyllum*), but they are matt rather than glossy. The spathe is green and white striped, al-

though some forms have purple markings. Very similar to A. *triphyllum* is *A. amurense*. It is a slightly stockier plant, but the main difference is that the leaves in well grown plants have five leaflets instead of three. *Amurense* refers to the Amur River in eastern Russia, north of Vladivostok, from where it was first collected.

One of the most beautiful species is *A. sikokianum*. The specific name is a corruption of the name Shikoku, the smallest of the main islands in the Japanese archipelago. The spathe is basically brown, finely marked with white, with an overall greenish tinge, but the inside of the spathe tube is vivid white. The spadix is shaped like a chemist's pestle and is also vivid white. The plant normally produces two leaves, the basal one being the larger with five leaflets, and the upper with only three leaflets. Often, each leaflet has a blotchy silvery stripe down its centre.

Another highly sought-after species is *A. candidissimum* (*candidissimum* meaning 'brilliantly white', referring to the colour of the spathe). This species is from western China and, as said earlier, is one of the last to come through the ground. Each plant has a single trifoliate leaf, with the central leaflet being much larger than the two laterals. The outside of the tubers are purple, not unlike some of the older potato cultivars. A very unusual and sought-after species is *A. griffithii* from the Himalayas. My plants have yet to flower, but the inflorescences are hooded like *A. ringens* and a very unusual burnished copper colour with a creamy-white network of veins. Each plant normally produces two trifoliate leaves.

A. serratum is a very variable species from Japan. One form I have grows about 80cm tall and has green and white striped spathes, the other is much shorter (about 30cm) and has chocolate-brown and white striped spathes. Each plant produces two pedate leaves. *A. dracontium* also has pedate leaves and is from the United States. The form I have grows about 60cm high, although I was recently told of plants reaching 1.5m in height. The spathe is green and the spadix is yellow, long and slender, and upward pointing.

A. flavum is probably the most widespread species, being found from Yemen to western China. It also has the smallest inflorescence of the genus, only about 2.5cm in length, and is also different in that the spathe is yellow (hence the specific name). As said earlier, the inflorescences are bisexual, so that plants set seed readily. The leaves are pedate.

A rather uncommon, but very beautiful species, is *A. costatum* from the Himalayas. The single leaf is trifoliate. The plant is easily recognised by the prominent and near parallel side veins on the leaflets. The specific name means 'prominent ribs' and refers to the inner surface of the spathe, rather than the leaves. The spathe is brown and white striped. The spadix is brown and as already noted, can be up to 50cm long. Similar to *A. costatum*, but more readily available is *A. speciosum*. It also has a single trifoliate leaf, but the leaflets do not have the prominent veins and are connected to the petiole, (leaf stem) by petiolules (leaflet stems) rather than being directly attached to the petiole, as is the case with *A. costatum*. The spathe is also brown and white striped but opens more widely than *A. costatum*. *A. speciosum* is unique among the species discussed here in that it is rhizomatous. The tuber is not replaced annually, but remains and is added to each growing season. Seedling tubers of *A. speciosum* appear the same as other *Arisaema* species, the rhizomatous nature does not become readily apparent until after a number of years of growth. Many of the tropical *Arisaema* species are rhizomatous, a condition thought to be evolutionally primitive.

A. consanguineum is one of the tallest species, up to 1m in height. It is from the Himalayas and down through South East Asia. The form I grow is rather plain, being green all over. The single leaf however, is radiate and this is very attractive. Another tall species is *A. tortuosum*. The specific name *tortuosum* refers to the bends in the spadix and is similar in shape to the spadix on *A. dracontium*. *A. tortuosum* is the only species I grow with 'scented' inflorescences. To me it is rather unpleasantly strong and musty, not dissimilar to *Lilium pyrenaicum*. Each plant has two pedate leaves.

I have discussed only the most readily available species here. All generate much comment from visitors. My suggestion is to try a few in your garden.

New Zealand's Open Garden Scheme

After almost a year of preparation New Zealand's Open Garden Scheme was launched in August last year by the Institute of Horticulture. The scheme was ambitious: to open over 300 of New Zealand's finest private gardens to the public, some for the first time, and to raise money for gardening charities.

Looking back, no one realised the amount of work required in such a short time. Regional committees had to be established and gardens visited and judged against set criteria. This often involved several visits to each property. Once gardens had been selected, descriptions of each garden were written and edited before being placed in the guidebook. The question of sponsorship was all important and the Development Officer spent much of his time negotiating with potential sponsors before Newstalk ZB were secured in July.

The Scheme got underway in late August with 3 gardens opening in Auckland, and 4 on Banks Peninsula. The opening was low key, partly because of the weather and partly because lack of a major sponsor precluded a large launch. Numbers of gardens opening increased during September and peaked with nearly 150 open in November. Almost 2000 people visited open gardens on the last weekend in October despite bad weather in some regions. The highest attendance was 1014 at Taipari Point in Auckland in early November. The Scheme has generally been well received with the major factors affecting attendance being the weather and in some areas, competition from other garden schemes.

The first year has invariably had teething problems that need to be addressed before the next year starts in August. These include :

- The need for a major sponsor to widely promote the Scheme. This will increase its popularity and so the amount of money raised for garden charities. The costs of advertising are so high that for such a scheme to be viable a major sponsor is essential.

How the Scheme Works

Most gardens are open twice a year, in spring and autumn. There are variations, however, with the Brady Garden in Auckland opening for two hours every month. Entry fees are generally $3 with 35% going to the garden owners or their nominated charity. After administration costs the balance is available to support horticultural projects which are used by the public. Funds raised in a region are returned to that region. Guidebooks are available for sale at most garden centres as well as at the gardens themselves.

- The standard of the gardens needs to be closely monitored. The success of this scheme will be in the quality of the gardens. New gardens need to be sought out and any below par removed from next year's book. This will involve a limit on the number of gardens in the Scheme, perhaps 150.

The Scheme needs to be run professionally and if it goes ahead next year a charitable company will be formed to run it.

The Scheme is an ambitious one, and it has been undertaken at a time when there are many regional garden schemes operating as well as publications promoting open gardens nationally. The unique nature of the Scheme, backed by New Zealand's National Horticultural Society, should ensure its success provided major sponsorship is obtained.

For more information on the Scheme please contact Enid Reeves, RNZIH, Box 12, Lincoln University, Canterbury

THE ROYAL NZ INSTITUTE OF HORTICULTURE

New Plant Network for Auckland

The Auckland Regional Botanic Gardens organised and hosted the inaugural meeting of the Auckland Plant Collections Network (APCN) on 5 April 1995.

The decision to initiate such a network received overwhelming support from the Auckland Regional Council and from the wealth of professional horticultural and botanical personalities within the Auckland and Hamilton regions.

How did this idea of a network come about? One of the many and excellent proposals to come out of the 1989 Botanic Gardens Conservation Strategy document was the need to create networks between botanic gardens at both a national and international level. The obvious advantage is that each garden would be far more effective if it was part of a co-ordinated national policy. Several years ago a similar view was held by the Wellington region whereby they brought together the professional expertise and valuable resources of the Wellington and Otari Botanic Gardens, Victoria University and Hutt City Council.

These three organisations are strongly committed to plant conservation having built up a comprehensive collection of New Zealand threatened plants. Their joint recovery programme in association with DoC for the nationally threatened *Muehlenbeckia astonii* has been a success.

The Wellington network had recently approached the ARBG with the objective of networking with our Botanic Gardens. In the longer term I would envisage far greater benefits to everyone concerned if the Auckland region could establish its own network and at some later date network with Wellington under the auspices of the APCN.

Hence the formation on 5 April of a new, stimulating and dynamic group to be known as the Auckland Plant Collections Network, (APCN). The network has been very fortunate in attracting an impressive wealth of professional botanists, horticulturists and nursery trade members from Auckland and Hamilton.

The network will operate on an informal basis and structured meetings will be kept to a minimum. A co-ordinator will help organise meetings, staff exchanges, events, and be responsible for bringing staff, ideas and resources together for mutual benefit. An annually published A4 size newsletter will help to encourage the flow of information which is vital to any network.

I see the network as a team focused on action and results with the highest priority given to plants. The team will involve all levels of staff who are willing to participate in the field of Botany, Horticulture and Plant Conservation.

Within two or three years I envisage that the APCN will be in a position to network with the Wellington group and other regional networks at a national level.

Objectives

- to share technical information and experiences
- to share and disseminate plant material
- to cooperate in consevation programmes, particularly with the threatened plant species of Northern New Zealand
- to collaborate on database systems and to exchange database information
- to advocate the wider use of all native plants
- to inform the public and relevant agencies of threats to the regional environment
- to facilitate horticultural training and co-operate in staff exchanges
- to list and publicise notable plants in the region
- to conserve, evaluate and advise on exotic plants
- to ensure accuracy and consistency in plant nomenclature

Whilst attending the 4th International Botanic Gardens Conservation Congress in Perth, 25-29 September 1995 I had an opportunity of discussing with New Zealand delegates the setting up of similar networks in Christchurch, Dunedin and Invercargill. This will be a priority for the early part of 1996.

Within Australia and Indonesia Plant Conservation Networks have been established and they have shown interest in networking with New Zealand! These networks will bring vast benefits to the regions rich and biodiverse world of native and exotic plants.

Steve Benham
Records Officer,
Auckland Regional Botanic Garden

Book News

This section will provide details of new horticultural books as well as more in-depth reviews. This has been made possible with the support of Touchwood Books, specialist horticultural booksellers from Hawkes Bay.

GARDENS ARE FOR PEOPLE

By Thomas Church; Grace Hall; Michael Laurie (Professor and Chair of Landscape Architecture, University of California, Berkeley, USA)

3rd edition, University of California Press, June 1995.

Price $89.95

This text contains the essence of Thomas Church's design philosophy, as well as practical advice. It is illustrated by site plans and photographs of some of the 2000 gardens Church designed during his career.

Called "the last great traditional designer and the first great modern designer", Church was one of the central figures in the development of the modern Californian garden. For the first time, West Coast designers based their work not on imitation of East Coast traditions, but on climatic, landscape, and lifestyle characteristics unique to California and the West. Church viewed the garden as a logical extension of the house, with one extending naturally into the other.

A GUIDE TO SPECIES IRISES: THEIR IDENTIFICATION AND CULTIVATION

The Species Group of the British Iris Society

Cambridge University Press, 1 Dec. 1995

Price $135

This volume provides a comprehensive, botanically detailed and up-to-date survey of the irises. It follows in the footsteps of "The Genus Iris" by W.R. Dykes early in the century. Following the pattern of the original Dykes monograph, botanical details, cultivation suggestions and general comments are supplied, and the work is illustrated with line drawings, colour photographs of unusual species and distribution maps.

This new survey includes all of the species which have been described so far this century and takes into account the many changes in classification which have taken place in the group. Information currently scattered in the literature is brought together in one volume to provide an authoritative reference for professional botanists and growers, and a mine of useful information for amateur gardeners and iris enthusiasts.

EUPHORBIAS: A GARDENER'S GUIDE

By Roger Turner

Batsford, July 1995

Price $110

This guide offers practical information for the cultivation and propagation of euphorbias in Britain, Europe, and the United States. It includes an A-Z of 80 species and varieties of this perennial plant and is designed for use by both amateur and professional gardeners.

With increased interest in subtle colours and interesting foliage, the hardy euphorbias have become more important to garden designers. The author, Roger Turner, is a former custodian of the National Collection of Euphorbias, and has studied them for many years. He looks at the place of hardy euphorbias in what is a huge plant family and describes how they grow in their natural habitats.

GERTRUDE JEKYLL: ESSAYS ON THE LIFE OF A WORKING AMATEUR

Edited by Michael Tooley and Primrose Arnander

Michaelmas books

This new book about the great English gardener Gertrude Jekyll (1843-1932) consists of essays by experts on all aspects of her life and work, from both sides of the Atlantic. Three members of her family have made contributions and much of the material is hitherto unpublished. There is a chronological table, bibliography and a list of all Gertrude Jekyll's garden plans.

THE PROPAGATION OF NEW ZEALAND NATIVE PLANTS

By Lawrie Metcalf (Godwit Press)

Reviewed by Mike Orchard, Grounds Superintendent, Victoria University of Wellington

The Propagation of New Zealand Plants encompasses a wealth of information in a format with which readers of Lawrie Metcalf's previous books will be familiar. Aspects of native plant propagation covered are :

structures and equipment needed, propagation techniques, harvesting and storing seed, diseases and pests, and finally comprehensive notes on the propagation of selected native plant genera and species.

In common with most floras New Zealand has its easier species to propagate and its seemingly impossible cases. Historically, there has been a lack of accessible practical information on native plant propagation. Through this publication, the author has enabled more ready access to available knowledge for amateurs and professionals alike.

The text is readable and full of titbits of practical information that are drawn from years of experience. The clear descriptions of general propagation techniques are practical and achievable, often with

and Reviews

the minimum of specialist equipment. Propagation techniques include tried and true traditional methods and practical innovations such as bog and scree methods.

Some typographic errors are noticeable. For example, the fern prothallus diagram (page 23) has the antheridia and rhizoid labels transposed. Generally, the line drawings and photographs are of an excellent technical standard.

The real pith of this publication is in its systematic treatment of individual species and genera. Details such as the use of pre-sowing treatments and special sowing techniques and the most viable forms of vegetative propagation are given for each plant species listed.

It is refreshing to see plant provenance being dealt with as an issue in this book. However, the potential conflict between garden cloning and genetic diversity is only briefly touched upon. It is essential that environmental issues such as provenance and genetic diversity become a part of the way of thinking of the native plant propagator and gardener.

As acknowledged by the author, there is a need for further research on the propagation of native plants. However, this book certainly provides a valuable baseline of information that can only grow as the landscape potential and ecological values of New Zealand plants become more widely recognised.

At $24.95 I consider 'The Propagation of New Zealand Native Plants' a very worthy investment for the native plant enthusiast as well as the horticulturist.

CLIMBING PLANTS

By Christine & John Nicholls

Reviewed by Steve Benham, Records Officer, Auckland Regional Botanic Gardens.

A recent and welcome arrival on our Botanic Garden library bookshelf is the title 'Climbing Plants' authoritatively written by Christine and John Nicholls. What makes this publication distinct from previous ones on the same topic is that it has been written specifically for New Zealand gardeners by authors who have drawn upon their 17 years of professional experience with this group of diverse and indispensable plants.

The publishers Godwit are also to be congratulated in making this the 4th title in their 'Godwit New Zealand Gardening Guide' series.

Choosing the right plant for the right place can, and often does, prove to be a nightmare to the novice gardener. The chapter "Plants for Places" will most surely overcome this perennial problem and I found it to be a good starting point when selecting the right plant for a particular aspect and use. Not finding the deliciously fragrant *Holboellia latifolia* listed under climbers with scented flowers was an obvious oversight.

Basic cultural notes, types of supports and uses are covered in the opening chapter, although a few words of caution when planting against buildings would have been useful. All too often amateurs and professionals alike plant far too close to walls where arid soil conditions usually prevail. When planting frost tender plants I would advise spring planting. Far better for the plant to die in the nursery than in ones own garden!

This guide has an excellent layout and is easy to use, informative and on the whole scientifically accurate, considering the complexities of taxonomic nomenclature and the recent bout of instability. The Nicholls have obviously a good understanding of the importance of using correct and up-to-date nomenclature.

The body of the book is superb and is devoted to the A-Z of Climbing Plants. Each plant entry commences with the taxonomic binomial, followed by the vernacular name in common usage, plant family, natural geographical distribution, evergreen or deciduous, height, aspect, soil conditions and hardiness rating. The general text for each entry is comprehensive and ends with garden worthy infraspecific taxa, cultivars and hybrids.

Clematis montana var. *wilsonii* and *C. montana* var. *rubens* have unfortunately been reduced to the cultivar status in the taxonomic hierarchy, whereas they should be classified as botanical varieties. (*) The same has been applied to *Jasminum affine* forma *grandiflora*. The cultivar 'Bill Mackenzie' is not a selection of *C. orientalis* but part of the Tangutica aggregate and therefore should appear as *C.* (Tangutica group) 'Bill Mackenzie'. Also, *C. orientalis* hort. is quite a different plant from *C. orientalis* Linnaeus. The former is the commonly grown one and should be described as *Clematis tibetana* subsp. *vernayi*. *Hedera helix* cultivar 'Goldheart' is spelt as one word.

Generic names derived from Greek which end in *-ma* are neuter which means that specific epithets likewise must be neuter and end in *-um*. Therefore the correct spelling from the specific epithet is *Schizophragma integrifolium*.

The Nicholls have widely adopted, albeit in parenthesis the Dahlgren et al classification of the monocotyledons. The family taxon Liliaceae has virtually disappeared with the appearance of a number of smaller families of more uniform content. The genera *Gloriosa* and *Littonia* have also been split from Liliaceae and according to Dahlgren et al they should now be in Colchicaceae.

The excellent photographs are a great asset for identification although I only wished that there were more, using fewer

large and more smaller photographs it would have enabled a wider range to be illustrated. Eight species of *Clematis* indigenous to New Zealand are listed, but no photographs. Despite the excellent coverage of approximately 70 genera I missed such garden worthy ones such as *Actinidia, Muehlenbeckia* and *Tropaeolum.*

Having highlighted the few minor criticism, I thoroughly recommend this authoritative work to both amateur and professional gardeners alike. It is a must, especially for the gardener who has run out of space on the ground and the only way to go is upwards!

(*) The New Royal Horticultural Society Dictionary - Index of Garden Plants, Mark Griffiths.

CULTIVATED PLANTS OF THE WORLD

Trees, shrubs, climbers.

Don Ellison

Flora Publications International Pty. Ltd.

Price $160

Available only from Touchwood Books, Box 610, Hastings 4215.

Don Ellison's eagerly awaited pictorial dictionary of cultivated plants of the world is a work of heroic proportions. Its 598 pages are beautifully designed and bound, a significant new comer to a world already well endowed with books. The title proclaims a publication of unusual scope. How could so much be encompassed between two covers? The short answer is, it can't. It is not at once apparent that angiosperms (flowering plants) only are covered, gymnosperms including conifers, are excluded.

The author is Australian, a Brisbane based horticulturist with a lifetime's experience in nurserywork, both selling and propagating and who latterly operated a seed production business. Ellison has also been active in radio and has written about gardening over a long period. Herein lie the clues to the context of this plant dictionary.

Beginning with brief notes on plant classification and nomenclature, the author moves on to cover planting distances, climate and soil, propagation and plant selection. This information is basic but will be helpful to many. Ellison is in deep water when discussing plant classification. He writes "true breeding hybrids are given species style names with the addition of the X sign. For example *Daphne* X *burkwoodii* ". It is my understanding that the X sign denotes a hybrid between 2 species, in this instance between *Daphne caucasica* and *D. cneorum.* The progency of this cross do not breed true.

On casual inspection this dictionary is all it promises. Clearly printed on glossy paper, the photographs, up to 10 per page, are of sufficient size to make identification of a vast range of plants possible. Mostly close-ups of flowers and foliage, the images are sharp and the colour accurate. Approximately 5,000 plants are reproduced in the 566 pages of pictorial reference. An excellent index concludes along with indexes of common names and synonyms. A helpful feature throught the book is a coloured margin which contains guide reference information. Clearly this is value for money.

Cultivated Plants of the World" will become a standard reference in Australia. The question must be asked, Will it be equally valued by New Zealanders? It would be easy to allow one's judgement to be clouded by its magnitude and scope, by the multitude of wonderful photographs and by the enormous effort of author and photographer alike. Further scrutiny shows however, that from a New Zealander's viewpoint there is not only an inbalance in the plant selection process between warm and cool climates, there is also a clear bias towards Australian and to 'nursery' plants, that is, plants with showy flowers and/or foliage. For instance there are 42 illustrations of Callistemon, 80 of Grevillea, 87 of Hibiscus, 84 of Bougainvillea, 40 of Melaleuca, 39 of Banksia and 24 of poinsettia (*Euphorbia pulcherrima*), while there are only 9 of Quercus, 4 of Betula and none of either Tilia or Nyssa. Rhododendron is represented by 45 photographs, 9 of which are species and there are an additional 50 pictures of rhododendrons belonging to the vireya section. Most of these are hybrids unfamiliar to New Zealanders and there are no species.

Don Ellison has travelled extensively photographing plants. He has yet to visit New Zealand. Readers will smile at the cordyline on p.178 which is clearly not *C. indivisa* yet marvel at the dazzling variety of *C. termalis* available in Australia. Understandably few of our native plants have been selected and puriri has become pururi. There are few errors otherwise.

A number of plants dear to New Zealand gardeners are missing: *Magnolia* 'Iolanthe', *Photinia* 'Red Robin', *Azara microphylla*, *Cornus* 'Eddie's White Wonder' spring to mind. Few gardens here are without *Lavatera* 'Barnsley' and *Rhododendron yakushimanum*, both of which are world wide favourites. Meanwhile be content with such unfamiliar plants as Acokanthera, Acrocarpus, Aeschynanthus, Afgekia, and Anthotroche, not forgetting Tetratheca, Theobroma, Thespesia and Theretia. This is a book for the plantaholic.

Gordon Collier

All the books mentioned are available from Touchwood Books Mailorder, Box 610 Hastings ph. (06) 874 2872, fax (06) 874 2701 or from Touchwood Bookshop, 35 High Street, Auckland City ph. (09) 379 2733. Remember RNZIH members get 10% discount.

—Focus on Native Plants—

New Zealand has a unique flora that has developed in isolation for millions of years. New Zealanders are becoming more aware of native plants and the need to conserve the remaining areas of natural vegetation. At the same time using native plants in the garden is coming back into fashion. In this section we will bring you news and information about native plants.

***Clematis* 'Purity'**

This new cultivar is available in garden centres and has been awarded plant variety rights. It was bred by the late Arthur Ericson of Akaroa and is probably a cross between *Clematis paniculata* and *C. forsteri*. The flower buds are lime green, the sepals becoming whiter as they open and age. It is a vigorous plant producing a mass of flowers in spring.

Plant Variety Rights protect the breeder or person holding the rights. The plants can only be propagated and grown on by licensed growers. You commonly see new rose cultivars protected but there are more native plants being granted plant variety rights. There are currently about 15 native cultivars covered, including another clematis called 'White Carpet' bred by Joe Cartman of Christchurch. The parentage of this is *C. marmoraria* x *C. paniculata*.

Plant Variety Rights are only granted if the cultivar is different from existing cultivars and species and holds those differences over time. Plant Variety Rights do not give any guarantee as to the quality or garden worthiness of a plant.

Threatened Plant Update

The New Zealand Botanical Society produced an updated list of New Zealand's threatened plants in March 1995. The list shows that 19% of New Zealand's flora is under some level of threat. This ranges from plants which face an extremely high probability of extinction, for instance the one remaining plant of *Tecomanthe speciosa* on the Three Kings Islands, to plants which are sufficiently rare to warrant monitoring, for instance *Fuchsia procumbens.* The full list is published in the New Zealand Botanical Society Newsletter number 39, March 1995.

Tecomanthe speciosa

Tecomanthe is a rampant climber found only on Great King Island of theThree Kings group. It produces clusters of creamy white flowers during the winter months. Frost tender it is best grown in the canopy of a tree for protection. The fruit are attractive in their own right, with enormous woody capsules up to 20cm long.

This native climber may have the distinction of being one of the rarest plants in the wild but that is certainly not the case in cultivation. The first plants brought into cultivation after its discovery in the late 1940s were grown from cuttings taken from the original plant. Many of these flourished and fruited freely if the conditions were right. The oldest *Tecomanthe speciosa* in the Wellington Botanic Garden was one of the first to be planted in cultivation in the early 1950s. It has fruited freely since that time with a record 190 fruit recorded during one year in the early 1980s. Last year the vine fruited heavily again. The area around the vine was left unweeded and during the spring hundred of seedlings appeared. These are being monitored for germination and distribution by Dr. Philip Simpson of the Department of Conservation.

Tecomathe seed is easy to germinate, taking about 14 days to appear when sown fresh. Young plants have distinctive, simple, coarsely serrated leaves, very different from the compound adult leaves.

1995 Loder Cup Winner

David Given, New Zealand's leading botanist in the conservation of threatened plants has been awarded the Loder Cup for 1995. The cup, which honours people who have made an outstanding contribution to the conservation of New Zealand's native plants was presented to Dr. Given by the Minister of Conservation, Denis Marshall during the International Alpine Plant Conference in Christchurch in January.

During his career he has been at the forefront of research and advocacy for the protection and conservation of plant biodiversity. He is the author of many definitive publications including 'The Principles and Practices of Plant Conservation', published last year by WWF and the IUCN.

In 1993 Dr. Given was made an Associate of Honour of the Royal New Zealand Institute of Horticulture.

Updated Native Plant List out Soon

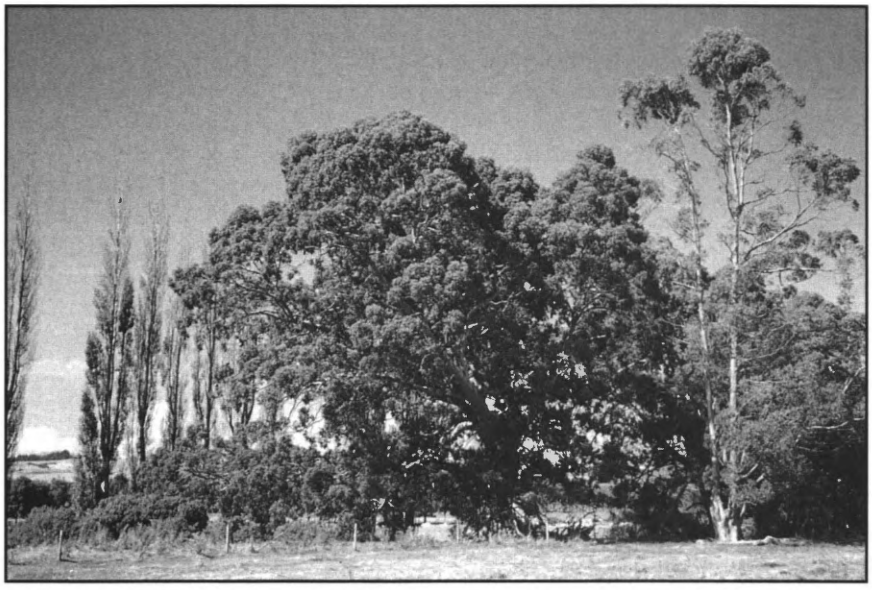
Landcare Research plan to publish an updated list of current scientific names of vascular native plants (except grasses) later this year. This list will document all the name changes that have occurred since the publication of the Flora in New Zealand Series and will provide an easy reference for gardeners and botanists alike. For more information please contact Murray Parsons, Landcare Research, Private Bag, Christchurch.

Name Changes

Lagarostrobos colensoi (Silver Pine) changed to *Manoao colensoi.*

Five species of hebe have been transferred to a new genus called *Heliohebe.* Two of the more commonly grown are:*Hebe hulkeana* changed to *Heliohebe hulkeana Hebe lavaudiana* changed to *Heliohebe lavaudiana.*

—Profile on Notable Trees—



The tree is planted high on a streambank which emphasises the beautiful arching trunk.

Bark detailing and multiple branching.

Eucalyptus archerii, or the alpine cider gum, is a mallee type eucalypt that eventually forms a small tree. It is an alpine species from Tasmania, occuring at altitudes of 1100 to 1400 metres. In the wild it can reach a height of 10 metres with a similar spread.

On the property of G. Milligan in Dipton, Southland, is a specimen of the alpine cider gum that could be the largest in the world. This tree was planted about 1880 and is now 22 metres tall and 30 metres across. If that's not enough, the circumference of the trunk above the root buttress is 7.3 metres.

The species is very hardy, tolerating several degrees of frost and requires acidic to neutral soils and good drainage. It is widely used in Australia for windbreaks, shelter and erosion control.

A study in harmony

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