

Newsletter

For Friends of the Christchurch Botanic Gardens Inc.

No 22, Winter 1995

INSIDE

- 1** President's Notes
- 1** Jottings from the Curator
- 2** Past Events
- 2** Coming Events
- 3** Photographic Competition
- 4** Bits and Pieces
- 4** Fundraising
- 4** Money and Members
- 4** Feature Articles
- 6** Annual General Meeting

FCBG

PO Box 237
Christchurch

President's Notes

It is important that we all allow time to assess where we are going and how well we are getting there. As I come towards the end of my first year as President of the Friends it is time to think of the Annual General Meeting and what it entails. Often people try to avoid AGMs. They have a reputation for being dry and deadly dull. Yet they should be one of the highlights of any organization's year. This is the opportunity to have a say, discuss what has been happening and to set goals for the future. We hope that this is the spirit in which each of us will regard our Annual General Meeting at the end of July, especially as this year we will be offering something a little different. But more of that later.

It is a pleasure to welcome Jim Crook to our team. Jim is taking up the vacant position of Minutes Secretary and his enthusiasm and expertise have been very evident already. It is often forgotten that much of the running of a group such as the Friends is behind the scenes. Meetings, sales days, the Friends glasshouse, garden tours and AGMs do not occur in a vacuum - they require people to run them and take care of the "nuts and bolts", or perhaps the "leaves and roots". We have a hard working and conscientious team working for the Friends and I am grateful for the time and effort being put in by everyone.

Our recent meetings have included Maria Adamski's inspiring view of botanic gardens today, and Peter Heenan's fascinating account of modern *Hebe* cultivars. It is good to be able to follow Maria's talk with another from a botanic garden staff member when Sue Molloy will be delving into the mysteries of the international seed exchange on 17 May.

The June meeting will be somewhat different. It will feature our first photographic competition and I would ask all our members to sort out your slides and prints and to have a go. Details are included in this Newsletter. "Oh, yes, but I am not a photographer". Never mind - we want to encourage you to show the rest of us what is your view of the gardens, of people, of plants. This should be a fun night - and informative too - but we do need your support and your pictures!

In fact, that is really the bottom line for all of us. It is support. In the first five years of its existence the Friends have made a significant contribution to our city's botanic garden. We have further plans in view for assisting the gardens in its important role in the life of Canterbury. But plans only become reality when people action them. It is this which ensures that there is an essential role for each of us as supporters of the Botanic Gardens.

David Given

Jottings from the Curator

The beginning of 1995 has been a busy time in the Botanic Gardens with seasonal maintenance and several capital works being undertaken. Major reconstruction of the riverbank on the area which adjoins the Christchurch Public Hospital will provide a very nice, easily accessed section of riverbank for public enjoyment and one which is much safer to maintain to a higher standard.

A survey has been completed of all the tree positions in the upper section of the Woodland,

so that a pop up irrigation scheme can be installed.

Those of you familiar with the herbaceous perennial border will have noted some metal frames which have been trialed as an alternative to the conventional wooden stakes. Although initially expensive, the wire frames have been less obtrusive and have not been subject to the sort of vandalism which wooden stakes attract. The trial is to be extended for the 1995/96 summer season.

Conservatories

The tuberous Begonias have been highlighted again in the Townend House. Greg Salton is most knowledgeable about these plants and many of display are the result of Greg's hybridising work. Townend House has also been the venue for a special display of Chrysanthemums. Trained to form standards, these plants have been a real challenge and with the experience gained this season, it is the intention to stage a bigger display to coincide with the National Chrysanthemums show in 1996.

Botanic Gardens Staff

Bede Nottingham has been appointed to the position of Gardener for Section D, encompassing the Rose Garden, Australian collection and Camellias. Bede brings to us a wide horticultural experience and we look forward to his contribution. Maria Adamski has been appointed Supervisor for Sections A, B, D, H & I. We congratulate both staff upon their appointments.

Esther Slattery, Michelle Guy and Greg Brocherie commenced on 4th April and have embarked upon the radically changed training scheme for apprentices brought about by the establishment of the Horticultural Industry Training Organisation.

Information Centre

This facility has a vital role in the functioning of the Botanic Gardens. The work which the many Friends do as volunteers is really appreciated and is significant when consideration is given to the number of visitors who are helped during their respective visits.

Records are maintained of the number of visits which are made to the centre and it is interesting to note that for April 1995 a total of 2221 visits were made, of which 37% were domestic and 62% were international visitors.

Methods of recording the number of visitors through the Botanic Gardens gates is to be investigated again.

Past Events

As always, thanks to all those who take groups on walks and tours round the Gardens. These are a wonderful way to gain greater knowledge of contents, and of the past, of the Christchurch Botanic Gardens.

And special thanks to those who helped give out flowers for the Garden City Trust Flower Day in February. This event seems to be as much fun for the givers-outers as well as the receivers of flowers. But we still say 'Thank you for your help'.

Coming Events

In Brief...

1995

Guided Walks

6 June, Tuesday	22 July, Saturday
24 June, Saturday	26 August, Saturday
4 July, Tuesday	23 September, Sat.

Other Events

17 May, Wednesday – Evening Meeting
27 May, Saturday – Heritage Walk
30 May, Tuesday – Heritage Walk
21 June, Wednesday – Photographic Competition
30 July, Sunday – Annual General Meeting
16 August, Wednesday – Quiz Night
24 September, Sunday – Spring Breakfast
7 October, Saturday – Plant Sales

Guided Walks

The guided walks on 6 June and 4 July are part of a series held on the first Tuesday of every month. They start from the Information Centre at 9am and are conducted by a member of the Botanic Gardens Staff.

The following walks all start from the Information Centre at 1:30pm and will be conducted by Max Visch.

- 24 June: Redwoods, Swamp Cypresses and Japanese Cedars
- 22 July: How to recognise deciduous trees during the winter months
- 26 August: A visit to the Conservatories in Christchurch Botanic Gardens
- 23 September: The Beauty of Heathers and Dwarf Conifers

Heritage Week

Two historic walks (27 May and 30 May) for Heritage Week are to be offered in the Botanic Gardens. The walks leave the Information Centre at 1:30pm and last for approximately an hour. So join the guided group and enjoy a leisurely look at 132 years of history, complete with free information pamphlet. Afternoon tea and pikelets will be offered afterwards in the Information Centre. (A small donation would be appreciated and would form part of the Friends Fundraising.)

If you are able to help make pikelets or serve teas, please ring Faye Fleming (ph 351-7798). If you can help with the guiding, please ring Max Visch (ph 338-2273).

Evening Meetings

The next evening meeting is on Wednesday, 17 May, 7:30pm in the Information Centre. Susan Molloy will be speaking on

"The Role of the Botanic Gardens in International Seed Exchange". Susan is the Botanical Officer at the Gardens and is responsible for co-ordinating the International Seed Exchange with over 400 other botanic gardens. She is also responsible for plant records and labelling, and oversees both the Gardens Library and the Herbarium.

On 16 August it is Quiz Time again (7:30pm, Information Centre). This is a team game, not an individual competition, so special expertise is shared around. Besides, if you go on the Guided Walks beforehand, think how many answers you will know at Quiz Time.

Spring Breakfast

A special breakfast party is being held on Sunday 24 September at 8am at the Information Centre, followed by a walk to the daffodils in the Woodland area.

This is to celebrate the arrival of Spring and we hope the daffodils will co-operate. They have been known to be (a) nearly over, or (b) buried in snow at this time.

A small donation for funds would be appreciated.

Annual Plant Sale

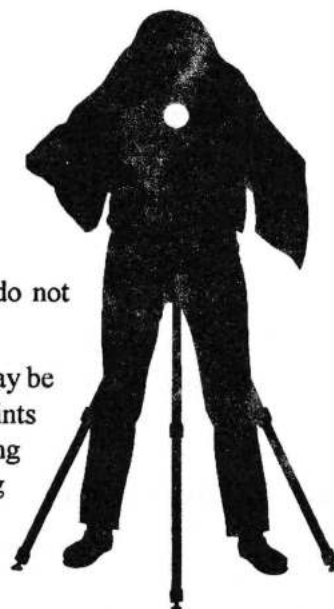
This fundraising event will be held on Saturday 7 October (on 8 October if it is too wet on Saturday). This sale always attracts considerable numbers of people who are keen to buy the high quality plants available.

Work has already started in the Glasshouse. If you would like to be involved in the plant production, please ring Max Visch (ph 338-2273) or Adrienne Moore (ph 351-5915). If you have unusual, interesting or even peculiar plants in your own garden, please do propagate some for the sale.

Photographic Competition

We need you ... and your photographs ... to make this night a stunning success!

- 1 The competition will be held on June 21, 1995.
- 2 Only members of the Friends of the Christchurch Botanic Gardens are eligible.
- 3 Sections are as follows:
 - ⊖ Plants in Botanic Gardens
 - ⊖ People in Botanic Gardens
 - ⊖ Landscapes and Seasons in Botanic Gardens
 - ⊖ Open (photographs which have a botanical, garden or park theme but which do not clearly fit one of the above categories)
- 4 The competition is for both prints and slides which will be judged separately. Prints may be black and white or colour and need not be mounted. They may be trade processed. Prints should be clearly marked on back with title (name) of photograph, and section being entered. The name of the entrant should be clearly indicated on the package containing the entries.
- 5 Slides may be trade processed and should be clearly marked on the slide mount with title of photograph and section being entered. The name of the entrant should be clearly indicated on the package containing the entries.
- 6 For each section a First Place and prize will be awarded with other entries given "Special Mention" at the selector's discretion.
- 7 A selection of entries will be on display in the Information Centre for several weeks following the competition.
- 8 All reasonable care will be taken with photographs but no responsibility can be accepted for loss or damage.



**Entries should be handed in at the Botanic Gardens Information Centre,
or given to any member of the committee for forwarding to David Given and Tony Burnett.**

The closing date is Wednesday 31 May 1995

Any questions please ring David (phone 351-6069) or Tony (phone 384-1381)

Bits & Pieces

Minutes Secretary

Jim Crook has been welcomed to the position of Minutes Secretary for the Friends. Prior to moving with his wife Natalie to Christchurch on retirement, Jim was executive director of Independent Newspapers Limited, Wellington.

Jim's personal retirement programme involves overseas travel for up to three months each winter. During his absence this year, Dorothy Lake will act as Minutes Secretary.

Wea Course

Trees of the Garden City. This WEA course runs for eight weeks starting Thursday 1st June 1995, from 1pm to 2:30pm. There are five lectures and three field trips around the inner city, including the Christchurch Botanic Gardens, Mona Vale and the Avon River Walk. Topics covered are the biology, structure, classification, country of origin, history and the importance of trees to Christchurch.

The course will be run by Max Visch.

For programmes and enrolments, call at the WEA Centre, 59 Gloucester Street, Christchurch. For enquiries, phone 366-4530.

Friends In Other Places

Many of the Christchurch Friends travel both within New Zealand and also overseas. If you are one of the lucky travellers, do please be on the lookout for ideas and information from Friends in other places.

A file of useful material is kept at our Information Centre and any comments for use in the Newsletter would be most welcome too.

Swap Corner

Can anyone help?

David Given (ph 351-6069) would love to have the following: *Fritillaria pudica* and *Linnaea borealis*.

Adrienne Moore (ph 351-5915) would like some *Cornus canadensis*.

If you have plants to give away, or plants you long to own, then phone one of the editors so your swap can go in the next newsletter.

Fund Raising

Potpourri

Potpourri will be on sale at the evening meeting on 17 May. Adrienne Moore, who makes this potpourri, thanks all the people who provided the material for this charming fund raiser.

There is a Sales Table at all the monthly meetings. At this time of year, when plants are in short supply, donations of jam, pickles, produce, garden magazines and other useful things would be most welcome.

Money & Members

From the Treasurer

Many thanks to those who have paid their outstanding subscriptions. Partly as a result of this, our funds are in a very healthy state.

Our annual library grant of \$1,000 has been paid to the Gardens. Last year this enabled a wide range of specialist books to be purchased.

We are now in the process of updating the Information Centre slide projector. The other major project for this year is a large fridge for keeping seeds and plant material in.

Feature Articles

On September the 21st 1994 Roy Edwards spoke to the Friends of the ChCh Botanic Gardens. The following covers the main points only as the address included discussion of both live material and slides.

The Taxonomy and Garden Values of the Rosaceae

The Rosaceae is a large and very important family which touches upon the lives of most people in New Zealand. It is important for the wide range of edible fruit, but also for the large range of garden ornamentals. In a less enthusiastic sense the Rosaceae is known for the range of weeds that have been introduced and are invasive in many parts of New Zealand the most notorious of those being the blackberry.

The Rosaceae family is widely spread throughout the world with the largest concentrations of species being found in the temperate regions of the northern hemisphere. According to Heywood there are 122 genera and 3370 species. The New

Zealand native flora includes four genera (*Acaena*, *Geum*, *Potentilla* and *Rubus*) that belong to the Rosaceae.

Identifying Features

The members of the Rosaceae are woody or herbaceous dicots that may be as different as strawberries and apples. The main differences are really noticeable in the flowers and the fruits of the Rosaceae. Because of these differences, botanists have attempted to divide the family into a number of families, yet the similarities of the group make this exercise difficult and currently the family itself is divided into a number of subfamilies which are in some cases divided again into tribes.

Leaves

The leaves may be simple or compound, evergreen or deciduous and are usually alternate and stipulate.

Flowers

The flowers are usually bisexual and complete (contain all four whorls of parts). The flowers are in the main entomophilous (pollinated by insects). The number of parts in any whorl is frequently in multiples of five to numerous and are free from each other. The flower parts may arise above or below the ovary. They may be also in a halfway position - neither above nor below the ovary. The carpels that collectively make up the gynoecium (the female flower parts) may be fused or free.

Botanical Fruits

Much of the difficulty of aggregating members of this family together relates to the vastly differing fruit types. The fruit being the product of the ripened ovary of a flower and in many instances includes other accessory floral tissue that contributes to the complete fruit.

The Rosaceae includes many of the fruits we commonly grow and consume such as many of the drupes - plums, peaches, apricots, cherries etc., as well as the pomes - apples, pears, quince, nashi etc. A pome fruit develops from a number of fused carpels of a flower surrounded by accessory floral tissue called the hypanthium. This is the fleshy part of the apple that we eat. Drupes are fleshy fruits that contain a hard woody structure that encases the seed.

In the Rosaceae there are many fruits which are commonly called berry fruit that in a botanical sense do not have the proper structure to be called a berry. Examples of these fruits include raspberries and boysenberries which are aggregate fruits. Botanically this group are described as an aggregation of drupelets because of the similarity between each segment of the raspberry which is the product of one single carpel of the raspberry flower. In a structural sense that product is very similar to that of a stone fruit - hence the term drupelet. Other types of fruit commonly referred to as berries are aggregations of achenes - these include strawberries - *Fragaria* and the yellow flowered members of the *Duchesnia*

genus. These fruits consist of dry achenes which are again the products of individual carpels within a flower that are embedded on the surface of a fleshy receptacle that has swollen up beneath them.

Other members of the Rosaceae produce dry fruits that are called follicles - these are similar to the fruit of legumes being unicarpellate and pod like, but differ by splitting down one suture only. Examples include genera such as *Spiraea*, *Physocarpus* and *Aruncus*.

Divisions Within The Rosaceae

Because of the differing flower structures and fruit types the Rosaceae is divided further into a number of subfamilies. These are based on flower structure, fruit type and chromosome numbers. Within the five subfamilies some are further divided into tribes (the following classification is based on Heywood, V.L. 1978 Flowering plants of the World). (Note the oideae ending denotes a sub family, the eae ending denotes a tribe, names that are italicized represent plant names at generic level).

Classification — Group 1

Basic chromosome no. 7,8 or 9.

Prunoideae - Carpels one (rarely to 5), pendulous ovules, fruit a drupe. *Prunus*

Spiraeoideae - 2-5 carpels, fruit us. dehiscent.

1. **Spiraeaceae** - follicles with wingless seeds *Aruncus*, *Gillenia*, *Neillia*, *Physocarpus*, *Sibiraea*, *Sorbaria*, *Spiraea*, *Stephanadra*

2. **Exochordeae** - capsules with winged seeds *Exochorda*

3. **Holodisceae** - fruit indehiscent *Holodiscus*

Rosoideae - carpels many, us. on gynophore in hollow, persistent receptacle, each carpel with 2 ovules, fruit indehiscent.

1. **Ulmarieae** - receptacle flat or weakly concave, filaments club shaped. *Filipendulina*, *Ulmaria*

2. **Kerrieae** - receptacle flat or convex, carpels few. *Kerria*, *Rhodotypos*

3. **Potentilleae** - carpels numerous, on a convex gynophore. *Dryas*, *Fragaria*, *Geum*, *Potentilla*, *Rubus*

4. **Cercocarpeae** - cylindrical receptacle enclosing one carpel. *Cercocarpus*

5. **Sanguisorbeae** - receptacle urn shaped, hard, enclosing 2 or more achenes. *Acaena*, *Alchemilla*, *Sanguisorba*

6. **Roseae** - receptacle urn shaped, soft, enclosing many free carpels. *Hulthemia*, *Rosa*

Neuradoideae - 5 to 10 carpels, fused with each other and the inner wall of the concave receptacle which is dry at maturity. *Neurada* (According to Vol. 4 of the 'Flora of New Zealand' the following sub family "does not occur in New Zealand.")

Group 2

Basic chromosome number = 17

a. **Maloideae** - carpels 2-5 us. fused with inner wall of

receptacle and with calyx enlarged to form pome fruit. *Amelanchier*, *Aronia*, *Chaenomeles*, *Cotoneaster*, *Crataegus*, *Cydonia*, *Eriobotrya*, *Malus*, *Mespilus*, *Photinia*, *Pyracantha*, *Pyrus*, *Quillaja*, *Raphiolepis*, *Sorbus*, *Stranvaesia*

Garden Values

There is no doubt that the value of the pip, stone and berry fruit produced commercially is important to the New Zealand economy and to many others throughout the world. Leaving aside fruit there are many ornamentals in the Rosaceae family that make an enormous contribution to gardens and the gardening industry, not the least being that of the rose. Many of the members of the Rosaceae seen in gardens, including the Christchurch Botanic Gardens include deciduous or evergreen trees or shrubs, or herbaceous plants. Annuals, aquatics and true climbing plants are rare. Flowers range in colours from white to shades of reds, yellows and lavenders with true blue being absent. Many of the showiest flowering plants produce their flowers over the spring or summer. Some of the temperate deciduous tree species notably *Amelanchier* and *Prunus* (Japanese cherries in particular) provide good

autumn colour and some extremely attractive bark (*Prunus serrula*). There are also superbly textured evergreen shrubs, *Eriobotrya* (loquat) in particular, comes to mind. *Prunus laurocerasus* and *P. lusitanica* are both significant evergreen features of the botanic gardens in Christchurch. Others such as the shrubby *Cotoneaster*, *Raphiolepis* and *Pyracantha* provide attractive flowers or fruits particularly in the autumn and into the winter months; as do some of the larger deciduous trees, such as, *Crataegus* (hawthorns) and *Malus* (crab apples). The Christchurch Botanic Gardens also includes an area containing old species roses, as well as a display with the newer cultivars of hybrid tea and floribunda bush roses. Down at ground level herbaceous perennials such as, *Arunco* and *Filipendulina* provide us with a number of herbaceous perennials that flower during the summer. Hardy perennial herbs such as *Geum* flower for much of the year. The New Zealand *Acaena* and *Rubus* species are frequently seen used as ground cover plants in contemporary garden situations.

Roy Edwards

Pest and Disease Management

Following the recent news item in the Christchurch Press (24 April 1995) entitled 'Garden Bloom Without Chemicals' it seems appropriate to offer some information on alternative methods of pest control. The writer, Andrew Hodge, is employed as propagator at the Gardens.

1. Integrated Pest Management (IPM)

This involves using a pest's natural enemy, as a control in conjunction with acceptable sprays, as required.

Two spotted Mites (and a few closely related mite species) are controlled by the release of Mite E (*Phytoseiulus persimilis*).

Mealy Bug is controlled by the release of an Australian Lady Bird called *Cryptolaemus montrouzieri*.

Aphids are controlled by naturally occurring parasitic *Aphidiid* wasps, and also by releasing an Australian predator brown Lacewing (*Micromus tasmaniae*).

Whitefly are controlled by releasing a tiny parasitic wasp called En-Force (*Encarsia formosa*).

The predators and parasites feed specifically on the insects they are released to control. They do not feed on any other insects. This means when there are no insects (food source) they die.

These insects are thoroughly tested, to comply with strict environmental controls, and present no threat to New Zealand.

2. Plant Derivative Spray (PDS)

These are sprays derived from plants, and are used to control many pests and diseases.

Annual General Meeting

The annual general meeting of the Friends of the Botanic Gardens will be held on Sunday, 30 July 1995 at 2pm in the Information Centre.

The formal business will be followed by a Book Launch and afternoon tea. Further details later.

Anyone interested in standing for the Committee, please ring either Adrienne Moore (ph 351-5915) or Jim Crook (ph 358-5845).

The following are examples of what we use:

<u>Spray</u>	<u>Control</u>	<u>Comment</u>
Pyrethrum	Aphids, Thrips, Leaf Roller, Mealy Bug	Contact spray only
Convita Garlic concentrate	Deterrent to most sucking or chewing insects	This is a deterrent only. Helps to ward off insects as they don't like the taste. It may not directly control infestations.
Codacide Oil (Made from vegetable oil)	Helps to control all insects	This is a spreader and is added to increase coverage
Neem	Deterrent to most sucking or chewing insects	This is the only Botanical systemic spray. Helps to ward off insects and has some knock down action
Seaweed	Foliant feed and deterrent to most sucking or chewing insects	Provides micro-nutrients and wards off insects as they do not like the taste
Derris Dust	Chewing insects like caterpillars	Stomach poison. Can have some control against Aphids

3. *Other Sprays We Use*

Pallinal	Blackspot, Powdery Mildew	Organic fungicide. Best applied regularly to prevent infection from occurring. It kills the fungi spores after they have germinated but before they enter the plant
Lime Sulphur	Fungicide, Acaricide Insecticide	Direct affect as a fungicide, also provides long term protection. Controls lichens which can shelter scale insects and mites. Prevents crawlers from settling. Moderate toxicity but not a poison
Baking Soda (25grams to 1 ltr water)	Powdery Mildew	Alters the surface PH of leaves making it unsuitable for the growth of Powdery Mildew
Compost Tea	Fungicidal action Possible insect deterrent	Made from the run off of compost. Provides valuable micro-nutrients. Has fungicidal action. Foliar feed against dampening off and other fungal infections of the soil. May deter sucking or chewing insects
Sulflo (Sulphur)	Powdery Mildew	A protectant fungicide. Must be applied before infection occurs. Can be phytotoxic to some plants
Safers (Fatty Acids as Potassium salts)	Aphids, Mealy Bug	Destroys respiratory function in insects
Thuricide	Leafroller caterpillar	A biological insecticide that attacks the larval gut of caterpillars as they feed. After ingestion the caterpillar ceases feeding and death occurs in 2-3 days. Does not harm beneficial insects

Andrew Hodge

New Committee - Contact Numbers

President	David Given	351-6069 (pvt)	325-2811 (bus)
Immediate Past President	Roy Edwards	338-5969 (pvt)	325-2811 (bus)
Vice President	Faye Fleming	351-7798 (pvt)	
Membership Secretary	Ruby Coleman	355-8811 (pvt)	
Minutes Secretary	Jim Crook	351-5915 (pvt)	
Treasurer	Colin Neal	351-8676 (pvt)	379-4100 (bus)
Catering Coordinator	Daphne Banks	355-8399 (pvt)	
Walks	Max Visch	338-2273 (pvt)	
Info Centre Helper	Jane English	355-5289 (pvt)	
Tours Coordinator	Bob Peers	351-6776 (pvt)	
Sales Table	Adrienne Moore	351-5915 (pvt)	
Editors	Chris Christie	332-4246 (pvt)	
	Peter Mahan	359-8767 (pvt)	

Friends of the Christchurch Botanic Gardens Inc
PO Box 237
Christchurch