Newsletter

For Friends of the Christchurch Botanic Gardens Inc
To Promote, Protect, & Preserve

No 68, Autumn 2007

President's Report

Christmas seems such a long time ago. It is hard to believe that it is nearly the end of February and we are making arrangements for Easter and beyond. The highlight of Christmas this year was having a daughter join us from overseas for four days. One of those precious days was spent having an extensive walk through Mona Vale and the Botanic Gardens. It was interesting to observe Victoria's reactions as she rekindled old memories and appreciated the new developments. How often we take these icons for granted. During our walk we viewed the Christmas tree made up of Poinsettias. During the time we were in the Townend house people from pre-school to third generations observed the display with a sense of awe. I would like to see this display extended so that in time it would include all of Townend. What a wonderful Christmas experience this would be. The Father Christmas attached to the side of Cuningham House was amusing. He, like so many visitors missed the opening hours.

The Festival of Flowers has once again attracted many visitors to the city. From what I had observed and what has been communicated to me, many people enjoyed the activities in the Botanic Gardens; the magnificent display of begonias, innovative activities of Artomological Adventure and Botanics Bite Back. Staff are to be complimented for their efforts. Added to this are the dedicated Guides who have been stretched in coping with large numbers of people wishing to enjoy a guided walk.

We now await the announcement by Council on proposals for the Gardens and Hagley Park. Although the process has been at times tedious and frustrating, it has been carried out in a very robust manner. We are fortunate that we live in a democratic society.

David Moyle

Note from the Editor

For the first time we are distributing the Newsletter by email to those members who are on the internet and who have given us their email addresses. Those of you not having email connections will continue to receive the Newsletter in printed form as in the past.

Being able to distribute the Newsletter electronically means that members will receive their copies sooner and means that the money we save on postage can go to worthy Botanic Gardens projects.

While we hope that members approve of this move if anyone would prefer to receive the Newsletter in printed form rather than electronically please contact Jean Norton – phone 379 2464 or jeanorton@paradise.net.

Bill Whitmore

INSIDE

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Gardens' News

Jeremy Hawker reports –

Plants are interesting. They supply the essentials for life, as currently displayed in the Gardens Information Centre. They provide a creative storehouse of ideas and inspiration, as displayed in the recent Festival of Flowers. They provide a source of income, a basis for scientific discovery and, as any small child knows, an item you sniff, pick, string together, and hang around your neck as adornment. The list continues.

The scientific and horticultural objectives of the Christchurch Botanic Gardens has for a period of time been the focus of public attention through revision of the Management Plan and the Master Plan process. It would be an accurate assessment that these two aspects received very few responses in number. It is important to note that there was a strong feeling in the submissions regarding the Gardens as a place of enjoyment, pleasure, and a destination to bring friends and family and allow children to play.

The challenge for all who value the Gardens is to accept that they will always be valued this way and to bridge the gap between a purely aesthetic environment and its scientific basis. This is clearly achieved by connecting with people, telling the stories of the plant kingdom and how it has an impact on our lives.

The Botanics Bite Back exhibition within Cuningham House achieved this, having a scientific base but presented in an accessible manner. Large numbers entered the House and I received one e-mail message stating that it was the first time the writer could remember queuing in the gardens to view a plant display. Carnivorous plants have an appeal and a story to tell.

"Pitcher plants, also known as the "monkey cup", are selling like hot cakes at D-Paradise Tropical Fruit World and Aboriginal Native Village in Lubok. The Chinese, particularly tourists from Hong Kong and Taiwan, are attracted by these plants which are known in Cantonese as chu long yap sui (which sounds like water pouring into pigs' cages). D-Paradise managing director Datuk Lee Wah Chong said nursery owners were selling more pitcher plants this Chinese New Year as it signified an abundance of wealth for years to come."

Another interesting story recently - "Danish biologists genetically modified a plant so it's able to detect the explosives hidden in the ground, and particularly the anti-personnel mines. The *Arabidopsis thaliana* has two different properties: the first is to be sensitive to nitrogen dioxide present in the explosives, the second is to produce anthocyanins, natural pigments that make the autumn's beautiful colours. The biologists short-circuited these two properties, creating a relation between the first and the second; when the *Arabidopsis thaliana* detects nitrogen dioxide, it produces the pigment and becomes red, whereas its classic maturation would like it green. The idea is thus to sow the plant by helicopter and the result is visible after 3 to 6 weeks. Moreover, the researchers also made it sterile to avoid a proliferation which no one could control."

The Botanic Gardens are full of wonderful plants, each with a tale to tell, how we share these is the challenge, and not forgetting that it is a place to come and smell the roses, or make a daisy chain, or lie on the grass, to recharge the soul and enjoy nature.

Articles

The following article is very timely following the splendid display of carnivorous plants put on during the Festival of Flowers in the Cuningham House.

Carnivorous Plants

There are 15 genera (among five families) classed as carnivorous plants. These plants mostly grow in swampy or marshy places where nutrients, especially nitrogen, are in short supply. Nitrogen is obtained from the proteins of insects and small animals that the plants digest.

The specialized leaves of pitcher plants are sometimes described as 'pitfalls' as the insects fall in and cannot get out. *Nepenthes* is the largest genus of pitcher plants with about 80 species in Southeast Asia, tropical Australasia, the Seychelles and Madagascar. Most are climbing plants with narrow leaf tips converted into twining tendrils. Some of the tips of the leaf tendrils develop into vertically oriented pitchers. The pitchers are mostly narrow and tubular with an upward-angled lid attached at one side of the opening at the top. The colour of the pitchers may resemble a flower with completely red or red stripes and patches near the opening and on the lid. This may help attract insects, but more significantly there are many glandular hairs secreting nectar over the lids and on the inside of the pitcher near the opening. The thickened rim of the pitcher opening has downward-curved spines overhanging the pitcher interior. Alternating with the spines are prominent nectar glands. Insects that reach these glands on the underside of the overhang are unable to escape because of the downward-facing spines. The interior also has a smooth, slippery surface with another zone of downward-angled hairs. The trapped insect falls into a fluid at the pitcher base and drowns. The fluid-filled digesting zone has many glandular hairs that secrete acids and enzymes which digest the insects.

The most common insects trapped are ants, but other small animals can also be trapped. Some *Nepenthes* species have large pitchers, up to 1m in height. These have been found to contain mice, frogs and other similar sized animals. Some other *Nepenthes* species act as host plants to certain mosquitoes, gnats and flies which lay their eggs at the edges of the openings, and when they hatch the larvae drop into the digesting fluid, to which they are immune, and feed on dead insects.

Sundews *(Drosera)* are described as having flypaper traps. The many species of *Drosera* are found throughout the world. The leaves have densely set, stalked, rounded glands that exude a sticky fluid. Insects mistake the fluid for nectar, become fully stuck, and the leaves slowly roll up, enclosing them. Some species have red, spoon-shaped leaves in neat rosettes that have a flower-like appearance. Other sundews are taller and branched, with long and narrow or broad and shield-shaped leaves.

The Venus fly trap *(Dionaea)* is widely cultivated because of the interesting way it snaps shut when stimulated and its prison-like appearance of the leaf edges. In nature it is restricted to a small area in North and South Carolina. The two lobes of each leaf blade normally spread widely apart with long spines along the margins. The leaves are coloured in shades of red and on the inside margins there are many nectar-secreting glands that attract insects and other small animals. The remainder of the upper surfaces has different glands that secrete a digestive fluid when required. In this digestive zone are six narrow, sensitive hairs in two groups, three on each lobe. If a falling leaf or something similar touches a hair there is no reaction; if an insect or finger touches one hair twice in quick succession, or two hairs in quick succession, the lobes of the leaf quickly close and the marginal spines intermesh.

The mechanism of this closing movement is still not fully understood. It seems that the stimulated hairs trigger an increase in cell size causing an equally sudden partial closure of the leaf. The leaf continues to close more gradually, and the marginal nectar-secreting strips press closely together, forming a seal to prevent the leakage of digestive fluid. The inner parts of the lobes do not make contact and form a sort of stomach cavity. After everything useful has been extracted from the prey, the leaf opens gradually 5-10 days later. After

three openings and closings activity ceases and the leaf dies.

If the leaf is deliberately stimulated to close with a piece of leaf or another inedible item, the plant is not entirely fooled. No digestive fluid is produced and the leaf opens again after a day or so. Small animals such as ants can escape the trap, but those 1cm long or more cannot.

Bladderworts (*Utricularia*) have their traps submerged in water. Most of the several hundred species found worldwide are submerged freshwater aquatics without roots. They have slender, much-branched stems and much-divided leaves with many narrow segments. Prey are captured in sacs on the finely cut leaves.

The bladders are very small, 0.5-5mm long, and only work under water. They are more or less pear-shaped with a lid or door at the narrow end. There are special glands on the inner surface of a bladder that connect through to the outer surface and expel water. This results in a strong suction within the bladder. When a small aquatic animal touches the external, sensitive hairs at the door edge, it opens and water – with the animal – is sucked in. When the water pressure inside the bladder equals that on the outside, the door closes and digestion begins. After digestion the glands in the bladder remove the water and the decomposed animal, the sac flattens and the trap is set once more.

Reference:
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Russell Moffitt

The New Zealand Ratas and Pohutukawas

The Myrtaceae is a large, mostly tropical and subtropical family of almost 3,900 species of evergreen trees and shrubs. The family is especially prominent in Australia, where the Eucalypts, Melaleucas, Bottlebrushes and other Myrtle genera make a large part of this country's tree flora. In contrast *Myrtus communis,* the common myrtle, often seen in herb gardens in New Zealand, is the only European member of this family. New Zealand's flora is not well endowed with Myrtles either. We only have a meagre 19 species belonging to 6 genera - but the few we have include some of our most beautiful flowering native trees. The ratas, pohutukawa and tea-trees are known to most New Zealanders and always, when in full bloom, draw the rapt attention of visitors and locals alike. Only the ratas, rata-vines and pohutukawa, belonging to the genus *Metrosideros*, will be discussed here.

The scientific name stands for 'ironwood' from the Greek 'metra' = middle and 'sideros' = iron, in allusion to the hardness of the heartwood. Philip Simpson in his classic book "Pohutukawa and Rata" refers to them as 'New Zealand's iron-hearted trees'; a very apt description.

There are about 50 species belonging to the genus *Metrosideros*. The genus appears to be centred on New Zealand and New Caledonia, where the vast majority of the species are found - with most of the remainder scattered around the Pacific. New Zealand, including the Kermadecs, has 12 species of ratas. Half of these are trees, some very large, and the other half are vines or climbing ratas.

Rata vines are root climbers like ivy. The young juvenile stems cling onto the trunk of a host tree by means of very short adventitious roots, which hold the juvenile stems and leaves closely against the host's trunk. Eventually, when the stems of the rata vine becomes cord- or rope-like, the adventitious roots die and wither away, so that the climbing rata is no longer pressed against its support and comes to dangle free like rope from the upper trunk and branches of the host tree. Such rata vines may increase in thickness to the size of a man's upper arm and reach the canopy of a mature forest tree.

Three of the six species of rata vines are largely confined to the lowland forests of the North Island, North-West Nelson, and Marlborough. The other three are common in the Westland rainforests. Of these *Metrosideros fulgens* is perhaps the most beautiful on account of its large red flowers. *M. perforata* bears small white flowers and has a juvenile stage of small, round, gland dotted leaves arranged in opposite pairs closely appressed to the bark of its support. *M. diffusa* is the most common and widespread species of rata vine. It occurs in lowland forests throughout New Zealand and has been recorded from Banks Peninsula and even from Riccarton Bush.

A small tree or shrub, related to the rata vines, but not a climber is *M. parkinsonii*, a little known species first discovered by the Nelson botanist Henry Travers in the hills near Collingwood in 1882. In later years it was found growing on the Great and Little Barrier Islands and in Westland. This species is noted for its small size, larger leaves and beautiful bright red flowers. It was named for Sydney Parkinson, botanist and artist on Captain James Cook's first voyage.

In 1975 Auckland schoolteacher and bryophyte specialist John Bartlett discovered a new species of rata, later named *M. bartlettii,* in honour of its finder. The new species was not in flower, but was remarkable for its white, soft and flaky bark. It was discovered in Radar Bush at Te Paki, south-east of Cape Reinga. Flowers were first collected almost 10 years later; cream or white coloured, they were produced in great abundance all over the tree's canopy. It also proved to be a hemi-epiphyte like the northern rata *M. robusta*, to which it seems to be related. Only 30 trees have been discovered so far and it therefore appears to be one of our rarest trees.

Where the tree ratas are concerned, Christchurch and lowland Canterbury must be among the worst places in New Zealand to see the beauty of these unique trees in their natural environment. The easiest way to view the beauty of the southern rata *M. umbellata* is to travel by car to Arthurs Pass and on through the Otira Gorge. Every few years in summer, when there is a 'good rata season', the slopes on both sides of the gorge are ablaze with brilliant red flowers, much admired and photographed by tourists and New Zealand visitors.

The southern rata is a much smaller tree than its northern cousin *M. robusta* and rarely exceeds a height of 15 meters. It frequently has the shape of a large, multitrunked shrub. It forms a coastal border around much of Stewart Island as well as in the Catlins in Southland. The species is prolific on the West Coast from the southern fiords to Nelson and Marlborough and extends from sea level to almost 1200m (4,000ft.) high. East of the Main Divide, where rainfall is much lower, southern rata occurs in isolated patches at the upper reaches of the main rivers and at the heads of some southern lakes, such as Lake Wakatipu, Lake Coleridge and Lake Sumner.

Throughout the North Island southern rata is rare. Sizeable populations are only found on the Coromandel Peninsula and the Great and Little Barrier Islands. The species also forms a coastal fringe on the Auckland Islands and is thus the most widespread of all New Zealand ratas.

In Otago the southern rata is known as ironwood on account of the extremely hard, strong and durable timber it produces. It was in great demand by the early settlers, who used the wood for any purpose requiring great strength and durability e.g. the construction of sawmills, tramways, bullock carts, wharves, telegraph poles, cross-arms, fence posts, gates, stockyards and boats. Southern rata also proved to be an excellent firewood to stoke the boilers of locomotives.

The northern or giant rata *M. robusta* is a very large tree and one of the most remarkable trees of the New Zealand flora. Unlike the southern rata *M. umbellata*, which like other trees, starts life from a seed that germinates on the forest floor, the northern rata *M. robusta* usually starts life as a tiny seed carried aloft by a breath of wind into the crotch of a large rimu, kahikatea or some other tree. When conditions favour germination the seed grows and develops into a small bush. At this stage the rata lives as a perching plant or epiphyte, using the host tree as a habitat or perch, but not actually getting any nourishment from the living tissues of its host and it is therefore not a parasite. The epiphytic way of life ensures that the young rata, high up in the canopy of the host, receives plenty of light, a firm substrate to grow on and water and minerals from decaying organic matter - litter, dead bark, etc in the crotch of the tree. Once the young rata bush is well established high up in the host's canopy, it sends one or more aerial or feeder-roots down the trunk of its host to the forest floor, while the leafy shoots continue to grow upwards. When the aerial roots enter the forest soil, water and minerals become more readily available and the growth rate of the rata-epiphyte greatly increases. Over the years the descending roots thicken and send out horizontal side branches, which cling to and surround the host's trunk in a tight embrace. These girdling roots are capable of branching repeatedly and by fusing with one another enclose the supporting tree in a tight network of roots. After many years the host tree dies, either from old age, disease or by being smothered by the much younger and more rapidly

growing rata tree. When the host's woody tissues have at last rotted away, all that is left is a huge hollow pseudotrunk, made up of the thick, intertwined roots of the rata, which by now has become an enormous self-supporting tree. Trees that start as epiphytes and later develop a normal root system in the ground and thus become self supporting are often called 'hemi-epiphytes'.

The northern rata, when fully grown, is a very large tree with a hollow pseudotrunk and huge spreading branches frequently emerging above the other forest trees. Few of these trees are left nowadays, but the enormous tree at Bushy Park, a reserve north of Wanganui, attained a height of 43m and a diameter of 367cm as measured by S. W. Burstall and E. V. Sale in 1981. Such a tree must be many centuries old.

Northern rata, once a common tree of lowland forests throughout much of the North Island, has suffered much from the effects of bush clearance for farming, firewood production and possum browsing. This introduced animal has been responsible for the death of thousands of northern and southern rata trees. As Philip Simpson so succinctly puts it in his classic book “Pohutukawa and Rata” – ‘If you wish to see a northern rata, look for a dead tree’. Fortunately large stands still occur on Mt. Taranaki, in the King Country and the Urewera Ranges.

In the South Island northern rata dominates a narrow coastal strip north of Hokitika and on to northwest Nelson. It is a much larger tree than the southern rata and can be distinguished from the latter by its leaves, which are smaller, not as shiny and have minutely notched leaf tips. There are two specimens of northern rata in the Christchurch Botanic Gardens and another one on the midstream islet near the Hereford Street bridge. None of these are very large and it is needless to say that they were planted and so did not start their lives as epiphytes.

Meterosideros excelsa, commonly referred to as the pohutukawa or New Zealand Christmas tree, is without doubt one of the best-known and most loved of New Zealand's native trees. Now cultivated in many parts of the country, its original home is New Zealand's far north. Pohutukawa, meaning 'splashed by spray' in the Maori language, is a coastal species and occurs naturally from the Three Kings Islands to Taranaki in the west and Poverty Bay in the east. The species is also found growing around the shores of Lake Taupo, Lake Rotorua and some other lakes on the Volcanic Plateau. It has been suggested though, that these trees may have been planted by Maori in the distant past.

Pohutukawa is somewhat frost-tender and thrives best near the sea. Most of the original coastal pohutukawa forest is gone, but huge trees with massive multiple trunks and widespread branching are still a common sight around the coast of the upper North Island. Its natural habitat is either on a cliff-face or among boulders on some rocky shore. Often the trees appear to grow right out of an almost vertical cliff-face, holding on with roots that seemed to be fixed in the crevices of solid rock. Pohutukawa is in places the only tree species present. Pohutukawa leaves are thick and leathery, while the upper surface is covered with a waxy layer, which protects them from strong winds and salty sprays. The lower leaf surface and flower buds are covered with a white or buff tomentum, which presumably reduces loss of water from the plant.

It was during a two week stay in Wellington that I first came to appreciate the magnificence of this remarkable New Zealand tree and they were not even flowering. Pohutukawa have been much planted in Wellington parks, Oriental Bay, at the Beehive and as a street tree. In fact I often got the impression of it being almost the only tree used to decorate Wellington streets.

Some trees produce heavy masses of crimson-coloured aerial roots suspended from the lower branches. These occasionally reach the ground, but rarely enter it, probably because they are being swayed too much by the wind. The silvery haired flower-buds burst in December and the spectacular dark crimson flowers appear just before Christmas. The flowering may extend well into January. Early settlers developed the tradition of using the flowers and branches of the pohutukawa to decorate their homes as a substitute for the European holly and thus the name ‘New Zealand Christmas tree’.

The flower petals are very small and inconspicuous. The beauty of the flower is provided by the bundles of radiating scarlet-red stamens, as is the case in the other tree ratas and the Australian bottlebrush *Callistemon*. At the base of the stamens is a cuplike structure, which fills with

nectar - an important source of food for tuis and bellbirds.

In Christchurch pohutukawa is liable to get damaged by frosts in the winter and hence needs to be planted in sheltered and frost-free areas, as on the Cashmere Hills or along the coast at Brighton and Sumner. The best and largest pohutukawa's I have seen in the Christchurch area occur at Clifton Bay. These very healthy-looking trees droop large masses of aerial roots from their branches. There is a small pohutukawa growing in the Christchurch Botanic Gardens opposite the Fernhouse.

Early settlers, up north, soon learnt to appreciate the beauty and superior qualities of the pohutukawa timber. The deep-red, heavy wood is very hard, strong and durable. It was once in great demand for specialist uses such as boatbuilding. No matter how bent or crooked a branch, there would be some use for it on a boat. Naturally curved or bent branches were stronger than those made artificially, as was done in Britain using the common oak *Quercus robur*. The pohutukawa also made excellent firewood. In later days, because of the tree's adaptability and tolerance to strong salty winds, pohutukawa has come into use for windbreaks, hedges and, on account of its decorative values for landscaping purposes.

The tree was of great importance to the Maori. The leaves and inner bark were used for a variety of medicinal purposes. Northern tribes eased the pain of toothache by chewing on a piece of inner bark. A concoction of inner bark was used by Maori and settlers alike to treat diarrhoea and dysentery.

On the small windswept promontory of Cape Reinga stands a lone straggly Pohutukawa tree, sacred to the Maori people where, according to their beliefs, the spirits of the deceased leave New Zealand for their ancient, ancestral homeland of Hawaiki.

Pohutukawa is still a common tree throughout the North Island - much of it planted. Research in 1989 showed that at least 90% of the original pohutukawa forest has been cleared to make way for settlements, gardening and farming activities of Maori and European colonists. As with rata, some of the trees were felled to provide timber for construction, boatbuilding, fencing and to supply firewood, but most was simply burnt to clear the land for farming. Only small, isolated patches of the original forests remain, with some of the best forests on pest-free off-shore islands, such as Rangitoto Island. What was left on the mainland was further damaged by the browsing activities of the introduced brushtail opossum from Australia. The introduction of this pest, originally intended to start a fur industry in the 1840s, was a major disaster for this country. Apart from being a carrier of bovine tuberculosis, its present estimated population of 70-80 million animals have chomped its way through our native forests, devouring the eggs and young of our native birds and defoliating and killing numerous native trees and shrubs. *Metrosideros* species, including the pohutukawa, are highly favoured by opossums as a food source and repeated browsing of these trees has led to the death of thousands of pohutukawas in the forest remnants.

Since 1989 a project was started to reverse the decline of the pohutukawa and other tree ratas. It was named 'Project Crimson' and has as its main objective the planting of thousands of young pohutukawa trees and the conservation of the existing ones by banding and the control of the opossums. The project was enthusiastically received by the general public and hundreds of schoolchildren, their teachers and parents have become involved in the collecting of seed, plant propagation and planting of pohutukawa and rata trees. The hope is that, not too far in the future, the coasts of northern New Zealand will again be a blaze of crimson at Christmas time.

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Pohutukawa and Rata. Philip Simpson. 2005

Max Visch

Recent Events

Recent Events

Talk by Sally and Howard Wills, visiting English plantsmen, Thursday 15 February.

Those present enjoyed an excellent illustrated talk from Sally and Howard, both teachers, who had taken early retirement 10 years ago to enable them to follow their overwhelming interest in plant collections.

They established Fernwood Nursery in Devon, and hold the current collections of *Phormium, Sempervivum, Rosularia* and *Jovibarba.* They have been awarded National Collection Status by the National Council for the Conservation of Plants and Gardens.

It is interesting to observe that someone from England should be so involved in one of our native plants, *Phormium*, and it was obvious that Howard had a great love for them. They grow many varieties both in their garden and in pots, to take with them as a back drop to the many displays used when exhibiting at numerous shows around England. Of course the pots are also used to show potential purchasers of their plants the end product, though they don't take *Phormium* plants to sell at shows. They have experienced much success at these shows, including Gold Awards at the Chelsea Flower Show.

Their first love though, is really *Sempervivum* and their slides showed an amazing variety of this genus and its close relations, *Jovibarba* and *Rosularia.* Their natural habitat is amongst rocks. Most are found in mountain conditions throughout Europe with one in North Africa. Their main attraction is their colour which ranges from bright yellow and various shades of green, grey, pink, purple, red, orange and brown. Their common name is houseleek and they are often found growing on rooftops as protection from a variety of natural disasters. In "Culpepper's Herbal" 1652, their medical uses were outlined and these were many and varied, ranging from a cure for headaches to the removal of warts.

It was disappointing that there were so few members attending and I assure you that you really missed a fascinating evening. The Wills have a web site, www.Fernwood-nursery.co.uk and I urge you all to spend some time exploring this site. You will find it as fascinating and worthwhile as we did hearing them in person and viewing their wonderful slides.

Nedra Johnson

Recent walks

Since the last newsletter we have enjoyed the following special guided walks in the Gardens:

- Saturday 18 November by Friends' Guide Diana Madgin – "Roses old and new".
- Saturday 16 December by Friends' Guide Alan Morgan – "Christmas shoppers' respite".
- Saturday 20 January by Friends' Guide Neil O'Brien – "Guided walk around the Murray Aynsley lawn".
- Tuesday 23 January by BG staff member David Barwick – "Plants and you – discover the connection".
- Saturday 24 February by Friends' Guide Tricia Carr - "A few plant hunters; and some of their plants".
- Tuesday 27 February by BG staff member Darren Tillet - "Botanics bite back".

Helpers for Saturday walks.

The walks conducted by the Friends' Guides in our beautiful Botanic Gardens on the third Saturday afternoon each month are appreciated by hundreds of visitors every year. The various areas for these walks are chosen with the objective of showing the multi-faceted plant collections within the Gardens and of visiting to admire the many seasonal highlight displays. Members of the Friends Guiding Group take turns in conducting the walks. They have all received special training which enables them to speak knowledgeably about both the plants and the history of the Gardens as they relate to the interests of local and overseas visitors.

The success of these walks in the Gardens does at times overburden the guide who has been selected to conduct a particular walk. The main

responsibility of the guide is to use a speaker system to talk about areas visited and to respond to specialist questions asked by participants. However, there is also a requirement to collect fees from participants, distribute brochures, answer questions about the Friends and help stragglers catch up with the main group around the speaker. Numbers cannot, of course, be forecast in advance but if a large number of people do participate in any walk the main guide has difficulty in coping with the additional requirements of the overall group.

There is little doubt that the more active a person is in a Society the more enjoyment can be derived from such activity. With this in mind helpers, who do not necessarily have any special Gardens' knowledge, are sought to provide assistance to the guides who conduct the monthly Saturday walks. Any such volunteers, who may be old members or new members, wishing to take a greater part in one of the Friends major activities are invited to give their names either to Pat Whitman, (tel 384 3475) or to Faye Fleming (tel 351 7798).

Jim Crook

Friends' Groups

Guiding Group Report

The last training day for the Botanic Gardens Guides in January was a somewhat more passionate occasion than usual brought on by quite a few guides having a series of blank no client days on their roster. Visitor numbers have increased since then but are still well down on last year although blank days were similar at 8 occasions compared to 7 last year. Total clients to the end of January stand at 223 this season compared to 287 last season. There appears to be no reason for this down turn as visitor numbers in the City are reported to be similar or above previous years. One possible explanation might be that like all good environmentalists more of our potential clients are responding to the plea to cut carbon use by not flying so much and eco tourism might be suffering more than hedonistic tourism. Presumably our clients fall into the former category?

However, during the general discussion at the January teach-in it was agreed that it was probably necessary to have a much more aggressive policy of promotion of our services through the various hotels where our clients are presumably staying. In general it was thought that the whole operation needed to be well thought out and ready to be implemented for the next 2007-8 season.

Meanwhile there was a good take up of guides willing to take on extra duties of guiding at 10am each day for a trial period during February and March. To date there have been variable results and it is too early to report anything on this initiative so far. It is sufficient to say that from this guide's perspective so far this year, January to mid February, of 6 guiding opportunities one has had clients and one was stormed off. It was noted however that one guide, who shall be nameless, was treated to lunch after a tour so 10am tours may well be sought after in future? For this guide seeking solace at the Curators House after yet another abortive attempt for clients it was a coffee treat but in exchange for an unexpected appreciative audience of 40 plus clients from a cruise ship taking coffee there and interested in the organic gardens around the Curators House.

February is undoubtedly our busiest month in the gardens it is therefore very surprising that so much tree felling and pruning has been going on causing the Gardens severe loss of quality for visitors and utterly destroying any sense of tranquillity for which the gardens are famous. Surely it is not much to ask that such operations be restricted to less busy periods of the year. It has been particularly vexatious during the period billed, controversially, as the Christchurch floral festival!

On another environmental issue the guides voted to bring their own mugs to the training sessions and thus do away with the need for using those awful throw-away plastic cups at their meeting rooms. It is these little things that help us to practise the environmental issues we often preach.

Bob Crowder

Appreciation for guiding service

In addition to daily guided walks the Friends' guides also provide tours of the Botanic Gardens for tour groups - many of them being visitors from overseas. They all thoroughly welcome the opportunity to be conducted around one of the finest public gardens in the Southern Hemisphere by knowledgeable people.

During January, one Group of overseas visitors consisted of members of the American Horticultural Society's "Summer Coastal Gardens of New Zealand Travel/Study Group". In grateful appreciation of their tour of the Gardens the Friends have been presented with a one-year complimentary membership of the American Horticultural Society. As a member of that Society the Friends will receive the American Gardener magazine every two months, be entitled to visit public gardens across America and participate in their annual seed exchange. The Friends have also been presented with an etched paperweight in memory of the American's tour. This is a real tribute to the service being provided by our Guiding Group.

Jim Crook

Propagators Report – February 2007

We can report a good growing season. We did not lose any plants in the winter snow and although we are short of members to pot-up in the Trees Shrubs & Natives section we are keeping up pretty well. There is a back-log in the repotting area. The Perennials Team has received two new members and is able to keep up with new stock quite well. Esme Alps has taken over the Bulbs team from Jane McArthur and new stock will be advertised soon. The current flowering perennials are selling steadily from the sales trolley - very satisfactory to see.

The irrigation system will be overhauled soon; the timing may need changing to allow for hotter days. Hand watering has been necessary on the days when volunteers come in to work and of course in the Tunnel House, which has no sprinkling system. The misters in the Quarantine House continue to prove their worth and in the warm weather rooting is rapid. We have some seedlings in the Quarantine House but soon discovered we also had snails! These do not bother the cuttings but make short work of swan-plant seedlings - they have been fixed!

The Trees, Shrubs & Natives Team have been holding discussions on what plants to propagate and how to streamline their processes. We do need more helpers. The "topping" of mixed pumice and sawdust round the growing cuttings does reduce the number of weeds growing in each pot. It also keeps the soil moist and looks attractive to the purchaser so we shall continue to use it. (We note that the Gardens Staff are trialing weed mat covers on their pots - no conclusions yet.) The Perennials Team have been finding their small-size pots do not catch enough water with the once-a-day system so they may start to use litre pots.

We should be grateful, as usual, for donations of all size pots, providing they are washed and do not carry garden centre logos. We should also be very glad of more helpers, especially for the many non-gardening jobs related to the sales. There are plenty of chores that can be done sitting down, for instance. We now have comfortable bar stools to sit on in the Tunnel House, thanks to the generosity of Charlotte Bangma. Thanks, Charlotte!

The Garden's Staff have given us a collection of deciduous flowering shrubs to sell. We are delighted with these and offered them for sale to Members on an e-mail list. The remainder were made available at the 18th February Sale, on the last day of the Floral Festival. If there are members with e-mail addresses who did not receive the Sale List, it may be that Ruby Coleman, 355-8811, has not got you on her list. Check this out! For the Flowering Shrubs List phone Helen Constable, Co-ordinator, Propagation Teams, 980-9358, or e-mail:hrcon@paradise.net.nz

Helen Constable

Summer plant sale

The Summer Plant Sale was held this year on Sunday 18 February. The change from the traditional Saturday date was made as a trial because of the competition that has arisen from other sales and activities on Saturdays.

Your Committee is pleased to report that this change was successful and that the sale raised $1450. That sum was again a most welcome boost

to the Society's overall funds. These funds will be applied towards one of the Special Projects listed in the Master Plan for the Gardens on which the Council is expected to reach decisions shortly.

Plants left over from this sale and those suitable for planting at any time will continue being placed on a trolley outside the Information Centre and available for purchase from there. This arrangement has proved most satisfactory in the past.

The Committee remains most appreciative for the help given by all the Members who make plant sales such successful fund raising activities. As previously stated the helpers include not only the sales assistants but also the people who over many months, gather, prepare, pot, nurture and label the plants.

More helpers for all aspects of this work would be welcome. Volunteers should give their names to Helen Constable (ph. 980 9358), Co-ordinator of the Propagating Group.

Cancelled gardens tour

It was with regret and disappointment that we cancelled the recent planned visit to Governors Bay. However we do hope to work on this one later on, if there is sufficient interest. It has to be stated that these days are for your enjoyment, and not a money maker. We aim to break even. In this case we had only 22 paid up, and 5 hopefuls - this was not good enough on a 45-seater bus. Smaller buses cost roughly the same amount thereby increasing the cost to you. Gate charges for entry vary and we have little negotiating power there, except to ask for a slight reduction, considering the number of people we bring in. The respective cost on this last visit would have been - $26 gate fees to the respective gardens, split into, $10, $8 and $8 per person.

We aim to please, so any suggestions or knowledge of places and gardens interesting to view, please let the writer know. We have Oxford Farm Gardens in our sights for spring. What about an Autumn visit somewhere?

Liz Wolff, phone 313 5046, or email lizwolff@xtra.co.nz

Profiles

Alison Fox.

Last year Alison stepped down from the Committee, and has more recently stepped aside from the organisation of our Garden Tours, which she did so cheerfully and skillfully. You may also recall that at one time she was our Treasurer, and it was discovered more recently that she was a dab hand with a camera when she recorded in a series of photographs, the inadequate storage, work place and surroundings, in which the Christchurch Botanic Garden Staff perform their duties.

Returning to the Garden Tours, Alison did the hard yards, visiting all the venues to meet the owners, and record the mileage and time involved beforehand, to ensure the smooth running of the day, negotiated with the bus company, and then needed to ensure that we filled the bus for the occasion.

We look forward to Alison's company with us in the future, and in the meantime we thank her on your behalf, for the happy days we have shared with her, and overall, for the time she gives so freely to The Friends of the Christchurch Botanic Gardens.

Liz Wolff

12 FRIENDS OF THE CHRISTCHURCH BOTANIC GARDENS

Jane McArthur, the Bulb Lady.

Seventeen years ago, when Jane retired from the staff of the Christchurch Polytech, she was already one of the earliest members of the Friends. But that was not the beginning of her fascination with alpine plants, especially the bulbs. For many years before, bulbs had been an absorbing interest.

During her first years with the Friends, Jane helped to propagate rock plants from both seeds and cuttings. Ten years ago she turned her full attention to alpine bulbs. Most of these she sourced from Malcolm, Curator of the Rock Garden. Today, Jane's knowledge of her favourite plants is legendary. It has been through reading, associating with other experts and by her hands-on approach that she has acquired this vast store of knowledge.

Those working alongside her are only too aware of just how hard she has toiled. However, few know of her financial contributions to the Friends. Sales of her bulbs, both at the Gardens and at other venues have realised a sizable proportion of the total sales from all the other propagating groups. Unfortunately, no figures are available.

Do not think that Jane's work with bulbs is her only activity. As a long and valued member of the New Zealand Alpine Garden Society, she served as Secretary for four years and as Treasurer for another two. In 1996, Christchurch hosted the International Conference of Alpine Gardens Societies. Again, Jane was at the epicentre in the combined role of Secretary/Treasurer. We can barely appreciate the huge amounts of time and effort spent launching that very successful project. Justifiably, Jane is now a Life Member of that Society.

People who know her have variously described her as "very efficient," "thoroughly well organised," "hard working and dedicated to anything she is involved with." We would all agree with those sentiments. Now that Jane has retired from her role as the Bulb Lady, do not think it is time for her to sit back and take it easy. While remaining a member of the Friends, Jane recently joined another plant related group and has already begun to delve into the mysteries of the computer.

Jane, the Friends are indebted to you for the many years of untiring service you have rendered. With our grateful thanks go our very best wishes for the future.
Neil O'Brien

Friends of the Christchurch Botanic Gardens Coming Events March 2007 – June 2007

Friends' Phone Contact:

President:	David Moyle	358 8914	Membership:	Ruby Coleman	355 8811
Vice-President:	Don Bell	343 6699	Group Guided Walks	Pat Whitman	384 3475
Programme:	David Moyle	358 8914	Newsletter Editor	Bill Whitmore	339 8356

Please note that at the time of printing, the programme of talks scheduled for April – June, to be organized by the Friends, had not been confirmed. Members will be notified later.

Sat 10 Mar, 2.00pm	**Visit to Victoria Park.** A not to be missed opportunity to visit the 19th Armoured Regiment's Memorial at Victoria Park. Frank Harvey, who is the regiment's President, will explain about the various plantings from both a botanic and historical perspective. Meet at Victoria Park - plenty of parking below the monument.
Sat 17 Mar, 2.00pm	**Guided walk** – **"Poisonous plants"** with Friends' Guide Max Visch, $2.
Tue 27 Mar, 12.10pm	**Guided walk - "Birds."** Find out which birds call the Christchurch Botanic Gardens home. Hear about the seasonal changes, how they affect bird life and the role the Gardens play in hosting bird life. Andrew Crossland, Ornithologist/Park Ranger**.**
Sat 21 Apr, 2.00pm	**Guided walk – "Autumn leaves: the story behind the colour"** with Friends' Guide Neil O'Brien, $2.
Tue 24 Apr, 12.10pm	**Guided walk – "Canopy trees".** A look at the trees in the canopy of the native section. The tree canopy acts like a roof that provides shelter and shade for the plants found closer to the ground. Mark Davis, BG staff member.
Sat 19 May, 2.00pm	**Guided walk – "Nuts in May"** with Friends' Guide Pat Whitman, $2.
Tue 22 May, 12.10pm	**Guided walk** with a BG staff member.
Sat 16 June, 2.00pm	**Guided walk – "Art in the Gardens"** with Friends' Guides Faye Fleming and Barbara Brailsford, $2.
Tue 26 June, 12.10pm	**Guided walk** with a BG staff member.

Guided Tours: For group bookings all the year, for the *Introduction to the Gardens and Seasonal Highlights Walk* – phone 384 3475*.*

All Friends' guided Saturday walks leave from the BG Information Centre unless otherwise noted.

All Botanic Gardens' Staff led walks/talks depart from outside Cuningham House near the Rose Garden. (Fourth Tuesday at 12.10pm)

All are welcome to our events. Please encourage family and friends to join in.

Contact Numbers		
President	David Moyle	358-8914
Vice President	Don Bell	343-6699
Immediate Past President		
Treasurer	Lesley Godkin	388 0043
Membership Secretary	Ruby Coleman	355-8811
Minutes Secretary	Jim Crook	358-5845
Committee Members	Elizabeth Wolff (03)	313-5046
	Nancy Boundy	388-6345
Ex Officio	Jeremy Hawker	941-7580
Newsletter	Bill Whitmore	339-8356

Programme	David Moyle	358-8914
Helpers		
Plant Sale	Helen Constable	980-9358
Newsletter mail out	Jean Norton	379-2464
Botanist	Bill Sykes	366-3844
Guided Walks	Max Visch	338-2273
Guide Co-ordinator	Pat Whitman	384-3475
Enquiries	Info Centre	941-6840 x 7590
Administrative Assistant	Sylvia Meek & Fay Jackson	
Newsletter layout	Maria Adamski	

Invitation to Volunteers Thank You Function

Members of the Friends of the Botanic Gardens - you are invited to join your fellow parks and reserves and waterways volunteers at a function to be held at Travis Wetland Nature Heritage Park.

At the Christchurch City Council, we are fortunate to have so many wonderful volunteers working to make our city a great place. You and others like you make an immeasurable contribution to the wellbeing of Christchurch and the Council would like to recognise this effort through this "Thank You Function". Staff presentations will be included in the programme as well as a tour of the site by Travis Wetland Trust members.

The function is planned for: Saturday 17th March 2007, from 1.00 pm to 3.30 pm at the Travis Wetland Nature Heritage Park Education Centre, Beach Road.

Please RSVP to: Email: parks.volunteers@ccc.govt.nz, or phone: 941 8069

Please note: The Travis Wetland Trust is inviting those keen and willing to take part in the regular monthly working bee. This will be happening from 9am to 1.00pm. Wear sturdy footwear/boots, outdoor clothes including a hat, BYO gloves.

Christchurch Botanic Gardens Inc
PO Box 2553
Christchurch