Newsletter

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

No 69, Winter 2007

President's Report

For many years the Christchurch Botanic Gardens has produced a number of trainees who have been appointed to positions of responsibility both in New Zealand and overseas. This practical training which they received gave them a broad understanding of the technical difficulties encountered by staff. Much of the responsibility for this training rests with the Section Curators and their ability to pass on their knowledge and skills in an enthusiastic manner. It is therefore imperative that Council recognises their skills and knowledge and encourages their long term employment by offering attractive salaries. There is still a perception, that people who work with the soil should be clothed in moleskin trousers tied with a bow yang! Unfortunately soil does not equate with metal, wood or oil when comparing financial remuneration with other occupations. However it is pleasing to see Gardens staff being given the opportunity to attend workshops and conferences. This cross pollination of information can only benefit the Gardens.

Several weeks ago we celebrated Anzac Day. I could not help but think of former Gardens staff who had served overseas in both World Wars. Alec was one such person who had survived the carnage of Gallipoli. He would start to explain the conditions his unit was forced to live under, then freeze and just stare as the memories came flooding back. No amount of coaxing would entice him to speak further on this subject. I remember other staff members who had served in North Africa, Italy and Europe. On their return it was necessary for them to undertake a refresher course in horticulture. There were also a number of returned service men working in the Parks Department and I am sure that this type of employment helped them to rehabilitate. Lest we forget.

David Moyle

Editor's Note

We are again distributing the Newsletter by email to those members who have given us their email addresses.

If you would prefer to receive the Newsletter by mail, rather than electronically, please contact Jean Norton – phone 379 2464 or jeanorton@paradise.net.nz. Alternatively, if you are receiving it by mail but would prefer it by email please give your email address to Bill Whitmore – phone 339 8356 or billpauline@ihug.co.nz

Next Newsletter

In the next Newsletter you can look forward to the following:

- To mark the 300th anniversary of his birth there will be an article on Carl Linnaeus.
- Following up on Ian Oxley's story on "Divaricating shrubs" in Newsletter 66 last year, Russell Moffit will contribute an article on "Moa's and divaricating shrubs".

Bill Whitmore

INSIDE

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Gardens' News

Jeremy Hawker reports –

For some time the Christchurch Botanic Gardens has been a member of BGCI (Botanic Gardens Conservation International), which links over 800 botanic gardens and botanical institutions in more than 120 countries in the world's largest network for plant conservation, environmental education and sustainable development. They offer information on a range of topics that assists members in conservation, research and education programmes. The future planning for the gardens incorporates many of the same visions and goals and we have an incredible opportunity to change behaviour and promote plant biodiversity.

APGA (American Public Gardens Association), which we have joined recently, offers a range of information to institutional members, including other aspects of Botanic Gardens functions; operations, technology, visitors, administration, publications, volunteers, etc. They offer institutional knowledge we will use in developing programs and plans to enhance the range of services we currently provide.

As well as providing information to institutions, BGCI have prepared a plant conservation checklist for gardeners, which is a useful tool to consider when planning a garden, and what plants to have.

1. ***Know the conservation status of the plant species you choose to grow.***

A large number of plants that are threatened in the wild are sold in the nursery trade. By knowing which they are you can act to preserve them by being a careful consumer, instead of unwittingly contributing to their demise.

2. ***Know the laws that protect wild plants and how they affect you.***

A permit is required to obtain from abroad or from overseas suppliers any plant protected under CITES (Convention on International Trade in Endangered Species). Local and national laws including the US Endangered Species Act and the Lacey Act also regulate the sale of threatened plants.

3. ***To help protect wild plant populations, think conservation when buying plants, bulbs, and other plant materials.***

4. ***When possible, purchase plants that have been propagated sexually, by seed, to help maintain the genetic health of threatened plants.***

Many plants in the nursery trade are clones propagated in ways that eliminate genetic variation. The survival of most threatened plants is best served when they are grown from seed. Before buying them, ask how the plants have been propagated.

5. ***Be as diligent about documenting the origins of any threatened plants in your garden or greenhouse as you are about growing them*****.**

Some orchids and cycads, for example, are so critically endangered that plants in private hands may be an important stockpile of germplasm for future conservation efforts. A detailed record of their provenance, or origin, increases the conservation value of the threatened plants you grow. Conservation-minded suppliers of seed or plants can provide such information.

6. ***Make your garden a refuge for native wildflowers and wildlife.***

By using native species in plantings modelled after local plant communities such as forests or prairies, you can do your part to compensate for the loss and fragmentation of habitat, and nurture birds, butterflies, and other pollinators and seed dispersers. And don't forget — to avoid threatening plants indirectly by damaging their pollinators and native habitats, don't use toxic pesticides, don't over-fertilize and choose plants to minimize water use.

7. ***Never grow plants that are invasive or potentially invasive.***

Invasive plants spread out of control in the wild, threatening native plants and animals. Many common garden plants can become invasive. Remove these plants from your garden. The best way to avoid introducing a new invasive plant is to select trees, shrubs, and wildflowers native to your area.

8. *Make the most of your green thumb — volunteer to assist conservation work at a botanic garden or other group.*

From propagating threatened species to removing invasive plants, the amount of work required to save the estimated 100,000 imperiled plants worldwide is staggering. Botanic gardens and other groups rely on volunteers to help get the work done.

9. *Support local, national, and international plant conservation efforts.*

Become a member of botanic gardens and other groups involved in plant conservation and habitat preservation. Let government officials know plant conservation is important to you.

10. *Be an eco-tourist — support sustainable use of plants when you travel.*

Ecotourism is travel to natural areas that contributes to the protection of critical habitat and sustains local communities. Choices range from small-scale tours to huge resorts.

The concern for plant conservation is not only for New Zealand species. Magnolia species are declining at a rapid rate; over half the world's magnolia species are facing extinction in their native forest habitats. Conservation of the world's plant species is the role of individuals as well as botanical institutions.

Update on activities from Kerry Everingham, Visitor Services Coordinator

Botanic Gardens Information Centre Display

Saturday 9 June – Sunday 2 Sept
'Guardians of the Forest - A Tradition of Value and Respect'
Normal opening hours apply to view this new display illustrating how different cultures recognise their guardian forest spirits. The relationship with these spirits is seen as one of mutual respect for the forest and all that make it home.

Myths and Magic Discovery Trail for Children

Saturday 30 June – Sunday 15 July
This discovery trail will explore the hidden world of mythology and magic. Children taking part will discover magical trees and supernatural beings. Activities will include deciphering a secret code, following an I-spy trail and visiting a fairy grotto. To take part, pick up a discovery trail flyer from the Information Centre.

Report Back - Time Traveller Discovery Trail

Over two hundred children and their carers took part in the latest school holiday discovery trail at Mona Vale. Mona Vale was the base for this trail to help increase awareness of the garden park to people outside of the local area. Participants were encouraged to imagine that they were children of the Edwardian age, discovering little nooks and crannies in the garden. The most popular activity involved the construction of leaf and twig boats that were launched from the Buxton Bridge. Discovery of the statue behind the Fernery and playing leap frog alongside the lily pond were close contenders for the top activity spot.

Feedback collected on feedback forms has been very positive, with 82% of participants indicating that they enjoyed themselves. The Mona Vale Homestead supported the trail by provided a prize draw and a Time Traveller Trail special offer.

Profile

Brian Mitchelmore

Mona Vale's Brian Mitchelmore has faced many interesting situations in his 30-odd years as a gardener, but the morning he arrived to find a fully laid-out ski jump recreated on a set of steps in the garden has to be one of the highlights. "I couldn't believe my eyes," Brian says. "They would have had to barrow in the snow as the gates were locked. There were candles carefully placed along the slope and when I arrived the snow was still frozen.''

Brian enjoys the variety of tasks and autonomy he has at Mona Vale working with co-ordinator Angus Allan. "I love working here as I am not confined to any particular area, though I do feel the blue and white border is my special project" he says. "As there are only two of us with a site of 10 acres, we can end up chasing our tails some time, but the work covers the whole gamut and you are never on a job long enough to get bored. We are currently in the first stages of a development plan for the park

which will bring about some exciting new projects."

However while he enjoys Mona Vale, Brian has a particular fondness for one of his earlier roles, 11 years as sole-charge gardener for Woodham Park. "The park was the only one in Christchurch with a bird aviary and as I am an animal lover, I developed a really strong interest in the birds. The breeding programme for the canaries, native parakeets and parrots meant we had a first-class attraction. People flocked there.''

Brian began at the Botanic Gardens in 1968 as an apprentice gardener, attributing his love of plants to his grandparents and time spent in an uncle's market garden. He then worked in the Linwood Nursery and in various other parks in the southern side of the city. He has been at Mona Vale for 12 years, having taken over from a gardener who "lived and breathed'' the place. "While I don't have quite the breadth of knowledge of Mona Vale's history as he had, the endless questions from tourists have meant I have had to do quite a lot of research so I can answer their queries.''

Tourists make up around 90% of the heritage park's visitors, a figure Brian would like to see change. "Mona Vale is Christchurch's best kept secret and many people are not aware of just what is here" he says. "They seem to think it is a wedding and lunch venue only. But we have features such as the lily pond, the stained glass gazebo, the rose and iris gardens, the bath-house and the fernery. We would love to see many more visitors from across the city enjoying these heritage treasures."

Kristi Gray

Recent Events

We are most grateful to the Botanic Gardens Staff Members for the recent guided walks at 12.10pm on the fourth Tuesday of each month. Also thanks to the Friends' guides for the recent guided walks held at 2pm on the third Saturday of each month.

Articles

Birds in the Botanic Gardens

The following article is largely based upon notes taken by Pat Whitman on the recent very popular walk led by ornithologist/park ranger Andrew Crossland. Andrew led a group of about 100 people around the Gardens talking about the birds seen (and some not seen) along the way.
Bill Whitmore

Every 3 years Andrew surveys the bird population in 20 different sites in the Christchurch area by doing monthly counts for 3 months. These periodic surveys give data on the increase or decrease of species and on new arrivals.

Andrew described the various types of duck:

Paradise duck. The paradise duck is New Zealand's only shelduck – which means that it is a large, rather goose-like duck. The male has a black head and the female white. The ducklings are stripy. These ducks have become a common sight locally; they arrived about 10 years ago at Beckenham School and increased greatly within 2-3 years. The young have become used to urban conditions, such as cats, dogs and traffic. Because the public wants wildlife to be in the landscape the paradise ducks are allowed to wander on sports grounds and nest in trees and old chimneys. Paradise ducks moult in late January. They mate for life and defend their area, chasing off other pairs. While they are dominant over scaup and mallards, scaup in a mob can dive-bomb and kill paradise ducks.

One may sometimes see the **Australian chestnut-breasted shelduck**. Drought conditions in Australia can drive them over to New Zealand.

Mallard ducks. These are the most common ducks in the Gardens. Drakes have green heads while females are mostly brown.

Grey ducks are darker with a prominent black stripe across the eye. Pure grey ducks are rare and endangered but there are many hybrids, which always have orange legs. Grey ducks inhabit the lower Avon and Heathcote rivers and nest in trees.

Scaups. These dumpy little black ducks are found only in this country and are New Zealand's only diving ducks. The males can be distinguished by having a yellow eye. Ten years ago they were a threatened species, rarer than kiwis, numbering only about 15,000. There were a very few in the Christchurch area, in shingle pits at Kaiapoi and Halswell. Scaup are divers, whereas other ducks dabble, so they were finding food at different parts of the rivers rather than competing. Another difference is that scaup nest on the ground whereas mallards nest in vegetation. When a policy of not mowing the grass edges of the banks was started, a habitat ideal for scaup was created. Not only did the grass give shelter for nests but the grass seeds provided a food source as did the insects which were attracted. It is estimated that 1500 young are now produced each year and the species has re-colonised the area to the extent that Christchurch presently has about 7,550 birds. In total there are now probably about 20,000 birds. It had been said that scaup would not use shallow water, but they can be seen on ankle deep puddles. It had also been said that they do not like flowing water, preferring freshwater lakes, but they are now in rivers as well as the estuary.

Grey teal and **shovellers** can be seen at Travis Swamp.

There is a problem of an overpopulation of ducks, especially mallards, in the Gardens. The common practice of people feeding them bread is undesirable; not only is it a factor leading to overpopulation but the bread swells up in the ducks and is bad for them. The excessive numbers of ducks lead to pollution of the rivers and surrounding banks. In the autumn large numbers of them can be seen eating acorns under the oak trees.

Gulls

Red-billed gulls are coastal birds that breed locally and around Kaikoura. They have comparatively stumpy red bills and red legs. However, confusingly, in March after a moult they have black bills and legs.

Black-billed gulls prefer riverbeds and there is only one known colony in central Canterbury. There are some at the Waimakariri River. If they have leg

bands that are blue and white they are Waimakariri birds, or if multi-coloured bands they were ringed in Kaikoura. These gulls have a longer, thinner bill, black wing tufts and a whiter wing. They are endemic but rare, the population having nose-dived.

The large aggressive **black-backed gulls** may also be seen.

There is not a problem with common **pigeons** in the city because black backed gulls hunt for them, especially the young. They live in trees rather than in buildings. Many feed out at fields near the airport.

Cormorants
Christchurch was originally a wetland area and the cormorants are trying to repopulate the city. There are 5 species in Christchurch with colonies at Wigram, Bottle Lake and Peacock Springs.

A colony of **little cormorants** settled in the trees beside the pond by the Information Office in the 1990s. From the Gardens they fly a direct line via Tuam St, Harrow St, Opawa and Woolston to the estuary to feed.

Black cormorants are on Bottle Lake and at Taitapu and Motukarara. Indonesia and Sydney have major sites for cormorants.

Native birds. There are over 45 species in the Gardens:

Silver-eyes (wax-eyes) have a melodic call. **Fantails** whistle. About one in ten observed are South Island fantails, which are blacker with a white triangle at the ear. The others are Australian grey fantails. Lord Howe Island has NZ fantails but those in Norfolk Island are Australian. **Bellbirds** have returned to the Gardens. **Grey warblers** and **kingfishers** may be seen. In the spring there is the occasional shining cuckoo. The long-tailed cuckoo lays its eggs in the nests of brown creepers and migrates to New Guinea,

Native pigeons. There are about 30 in the Gardens and numbers are increasing. They are also in Riccarton Bush and the northern part of the city round to Richmond, but the core breeding group is in the Gardens. Breeding may happen in Riccarton Bush now there is a predator-free fence. Several pigeons die each year from collisions with windows. When this happens their ribcage tends to puncture their internal organs.

Unfortunately **tuis** are not to be seen. They died out in Canterbury in the 1970s. Each winter a few strays arrive at Hoon Hay. The Department of Conservation and Ngai Tahu are trying to re-introduce them.

Black swans are now considered native. One pair lives near the boatsheds and sometimes on Lake Victoria.

Introduced species:

Blackbird. This is a type of thrush and one of the most common birds. The male is black and the female brown with a slightly speckled breast. **Thrushes** are very common and quite tame. **House sparrows and hedge sparrows or dunnocks.** These ground feeders look for worms and grubs in the leaf litter. Interbreeding sometimes produces albino features. House sparrow numbers are declining; about 4 years ago there was a bad outbreak of disease from which they have not recovered. They have also become rarer in the UK, Europe and North America.

The **greenfinch** has green and yellow feathers. **Goldfinches** have black wings with gold bars, a brilliant red face and the crown black with white around the ears and sides of the neck. **Chaffinches** are common throughout all native bush areas. Also seen are the **red poll** and **bunting**.

While **yellowhammers** are common in the country they are uncommon in the Gardens. As for owls, no **moreporks** have been seen since 1930-50. They can be distinguished by the short yellow feathers on the legs. The most common owl is the introduced **little owl** which has white leg feathers.

Harrier hawks often get attacked by magpies. In February they migrate to the North Island. High country ones migrate to the coast when the weather gets cold - as do finches and grey warblers. It is warmer in the city centre than on the hills or shore.

White-faced herons were in the Gardens 20 years ago but not now. They ate the goldfish at Mona Vale and may have been shot! **Grey herons** are common on the estuary and feed along the roadside at Bexley

Coot are common at Westlake, and are spreading through the river areas from the Groynes, Orana Park and Peacock Springs. Like the scaup they are increasing rapidly and will be plentiful in 10 years time. **Pukeko**. Three were released in the Gardens but didn't stay long. **Spur winged plovers** are sometimes seen on Hagley Park.

Lost birds tend to see the Gardens as a green area and come into it for safety.

We are downwind from Australia. When Australia has a wet season, the centre becomes a lake and birds breed there. Then later, when conditions deteriorate, they fly to the coasts, then on to Tasmania, New Guinea, Indonesia, New Caledonia, Norfolk Island or New Zealand.

Possums eat birds' eggs or their young. There are traps in the Gardens to eradicate them.

Andrew maintained that domestic cats are not a major threat to birds in the city. In fact they tend to defend their own territory and deal with other predators of birds such as rats, stoats, ferrets and feral cats. If domestic cats were removed, the other predators would not be controlled and would be a greater threat to bird life.

When the habitat is right, birds will increase naturally.

Sir Joseph Banks (1743-1820). Nineteenth Century Scientific Leader, Explorer and Botanist

Joseph Banks was born in Lincolnshire, England, in 1743, to a wealthy family whose background was in agriculture, business and politics. For someone whose passion became natural history, what more favourable a time to arrive in the world than the mid 1700s? Remarkable scientific progress was being made. Georges Cuvier, (French naturalist and zoologist - 1769-1832) wrote;

"During this epoch, …the scientific men of England …have confronted the ice of either pole; they have not left a spot of land in the whole ocean unvisited; they have increased ten-fold the catalogue of the kingdom of nature, they have peopled the heavens with planets and satellites before unknown…." (Weale, 1854).

Banks was considered one of the most influential scientists of his time. He contributed much; through his own exploration and collecting, especially as botanist on Captain Cook's first circumnavigation of the world on the Endeavour; his work as unofficial Director of Kew Gardens; and Presidency of the Royal Society for 41 years. He was created a baronet in 1781 and invested Knight Commander of the Order of the Bath in 1795.
"His fame is not due so much to his writings, which consisted mainly of a few papers on agricultural subjects and his Journal, published 67 years after his death, as to his great influence on key men of the day, and his very important work in equipping scientific expeditions" (Oliver, 1951, p.21).

Not only was Banks able to indulge in his own passion of exploring and botanising in his early life (his plant collecting days were over when he was 29), he was willing and able, because of his great personal wealth and important connections, to greatly assist and enable others in many fields.

Early Years
Banks lived his early life in Lincolnshire, where he was able to roam freely and pursue his great love of the outdoors and fishing. The neighboring landowner, the Earl of Sandwich, became his enduring friend and he played a very significant part in Banks' chosen career. After early private tuition at home, when his tutors despaired of him, he went to Harrow when he was 9, then moved after 3 years to Eton.

Banks was not at all inspired by academic subjects, and at the age of 14 realised, on an enlightened walk home along a flowery lane, after a swim; "it is surely more natural that I should be taught to know all these productions of nature, in preference to Greek and Latin" (Lyte, 1980, p.14).

He began to teach himself botany using, as one source, a copy of Gerard's Herbal he found at home and paid for plant information from the old women who gathered plants in the countryside for apothecaries. Bank's enthusiasm knew no bounds; he was much inspired by the work of Linnaeus and became an acute observer of plants, animals and insects and amassed enormous collections. While at Oxford University, he "imported" the Botany Professor, the young Isaac Lyons from Cambridge University, when Oxford did not offer adequate teaching. (Apparently 60 students turned up).

When his father died he inherited a substantial fortune and had responsibilities at the family estate, Revesby in Lincolnshire, but his mother Sarah was extremely competent and supportive of Banks' own plans. His sister Sarah Sophia never married and was known as a "distinctly eccentric woman" who committed her life to supporting her brother's work (Lyte, 1980, p.91).

It was while staying in his mother's home in Chelsea in London, that he became a frequent visitor to the Chelsea Physic Garden, where he studied under the Curator Phillip Miller who also introduced him to other naturalists. His collaboration and lifelong friendship with Daniel Solander, who was a pupil of Linnaeus, was formed around this time. Solander later became Banks' secretary and librarian.

Banks had an irresistible urge to go to remote places in search of plants, animals and insects. His aim was to tour the globe and become the leader of his era in all fields of natural history and botany. He sought out leading specialists to expand his knowledge; his abilities were recognised and quite soon rewarded, by this group, with sponsorship at the age of 23 for membership of the Royal Society.

The Voyaging Years

Banks first proved his skills as a field collector during the seven month voyage in 1766-7 on the survey ship Niger, around the Newfoundland and Labrador coasts. In his diary from that journey, he recorded the recipe for making 'spruce beer' which was later used in various forms on other voyages, to help alleviate the vitamin C deficiency in the diet of crew members (Justice, 2000, p.11).

The time in Lisbon on the return voyage was profitably spent connecting with men of science there. This was the beginning of his many links around the world, maintained throughout his life and not hampered by political boundaries or disputes. Banks believed scientific information should be widely available. During his absence he was elected a Fellow of the Royal Society which gave "unfettered access to the best minds in the country" (Lyte, 1980, p.37).

In 1768, the Royal Society and Admiralty arranged a voyage, under the command of Captain James Cook, to Tahiti to observe the transit of Venus. Cook's secret instructions were to search for the fabled land of Terra Australis. Later writings suggest the British Admiralty was keen for Pacific exploration ahead of the French. (Adams, 1986, p.174). Banks was determined to sail with the expedition and lobbied hard to be included. His wealth and influential connections helped gain approval. On 25 August he sailed with Cook from Plymouth as botanist on the Endeavour. He paid an estimated £10,000 for his passage and his party of nine men. They included Dr Daniel Carl Solander from Sweden, artists Sydney Parkinson, John Reynolds and Alexander Buchan, Herman Sporing assistant draughtsman and four servants. Banks provided equipment and stores needed for collections in every branch of natural science.

The Endeavour sailed via Madeira, Rio de Janeiro, Tierra del Fuego and Tahiti, with stopovers for provisioning, botanizing and three months recording the transit of Venus - and possibly some of the crew's activities here come under the category of "rest and recreation". The explorations continued and the Endeavour reached the New Zealand coast near Gisborne on 6 October 1769, sailed south along the East Coast of the North Island to Cape Turnagain, and then circumnavigated both islands before departing for Australia on 1 April 1770.

During the six months around the New Zealand coast, Cook charted 2,000 miles of coastline and Banks and Solander collected around 360 plant specimens. (Amongst the 14 New Zealand plants introduced to cultivation on their return in 1771 were *Leptospermum scoparium, Sophora microphylla, Sophora tetraptera* and *Tetragonia tetragoniodes* (NZ spinach). Those subsequently named from herbarium species (over 50 plants) included *Astelia banksii, Pittosporum crassifolium* and *Senecio bank*sii (Laird, 1988).

On reaching Australia time was spent in Botany Bay, so named by Cook for the large number of botanical specimens collected by Banks and Solander. It was here they laid out their collections to dry ashore on the ship's sail. Banks was impressed by the potential settlement prospects here.

From Australia, the Endeavour sailed back to England via Indonesia, South Africa and St Helena, arriving in England in July 1771. Those on board had suffered an almost disastrous shipwreck on the Barrier reef and deaths from disease in Java. After the voyage of nearly 3 years, only 52 of the original 94 crew survived including Banks, Solander and

one other of Banks original party.

The returning travellers were much fêted and Banks was given a hero's welcome. Although he did not bring back many viable seeds or live plants, there is a *Sophora* still growing in the Chelsea Physic Garden in London, which is believed to be a direct descendant from a specimen collected by Banks on his Endeavour voyage. The Banks and Solander plants from the three-year voyage totalled around 1,400 species new to science, the most extensive collection brought into Europe at that time.

The botanical account of the expedition was never published. This was Banks' own failure even though he spent much time and considerable funds towards this. Many engravings were produced. His involvement as President of the Royal Society and his work for Kew seemed to take precedence. The delay in publication meant others were first with some plant descriptions and thus the Endeavour collections then became less of a novelty. Botanists working during Banks' lifetime did have access to both Banks and Solander and their assistants but the failure to publish caused much confusion for botanists who followed on, as there was often no clear evidence on which to base the taxonomic records. This was finally rectified around 200 years later with the publication of Banks' Florilegium (1980-1987) by the British Museum (Natural History) (Laird, 1988). For fuller account refer to Adams, 1986, p.125-169. This historical masterpiece has been described as the world's largest ever fine arts printing project and includes 143 plates of new species discovered by Banks and Solander based on the copper plate engravings produced under Banks direction. A copy was auctioned in Sydney in 1988 for $280,000.

Patronage, Plant collectors and Kew.
Shortly after the Endeavour's return, Banks and Solander were introduced to King George III, an event that was to open new opportunities for Banks' talents. He planned a scientific study of the Flora from the British colonies and needed the plants to study and a place to grow them. The King (Farmer George) was only 5 years older than Banks and one of his major interests was the Royal Gardens at Kew. They developed a long-term friendship based on their joint interest in agriculture and plants, especially plants that could enhance the economy. The King was remembered for his patronage of science.

After Banks' and Solander's journey on the Endeavour with Cook, it became a tradition to send a botanist and artist on British Royal Navy voyages of exploration eg Dr Archibald Menzies on the Discovery with Captain Vancouver in 1791-5, a voyage that included New Zealand. Although Banks prepared for Cook's second voyage, the alterations to the Resolution, to accommodate his party including his 17 greyhounds, caused it to be unstable. When he discovered the removal of his requested additions, he withdrew his equipment and refused to sail. Banks still co-operated with the expedition and recommended Johann Reinhold Forster as botanist. Apparently, Carl Linnaeus was aghast at the thought that Banks was to go on Captain Cook's second voyage, before he had properly recorded the collections of the first voyage. After the frustrations over the second Cook voyage, Banks set off for Iceland in July 1772. The volcanic lava used as ship's ballast on the return journey, formed part of the rock garden established at the Chelsea Physic Garden during 1771-72.

King George III appointed him Scientific Advisor on plant life in the dependencies of the Crown in 1772, and then in 1773 he was appointed special Advisor and Director of the Royal Gardens at Kew. Both the King and Joseph Banks wanted Kew to serve a useful purpose as well as an ornamental one and become "an international clearing house for plants" (Lyte, 1980, p.172).

Plant collecting had already started with Francis Masson, who was set down at Capetown by Cook, on his second voyage round the World. Later under Banks' own direction, many collectors were employed including William Kerr and Dr Clarke Abel. David Nelson, a Kew gardener was sent with Captain Bligh on the Bounty to collect breadfruit from Tahiti and was amongst those set adrift with Bligh, during the mutiny. When Banks sent Bligh out a second time the breadfruit collection succeeded.

Banks sent educated botanists to remote unexplored places for ornamental and economic plants. He "quickly saw the financial benefits of exchanging commercial crops among the colonies. His single-handed establishment of economic plant transfers played a vital role on Britain's emergence as a world power. It also led directly to the exploitation of human and natural resources in the colonies" (Musgrave, Gardner and Musgrave, 1998, p.34). Many countries now protect their native species against plant plundering. During the

reign of King George III around 7000 new exotic plants were introduced to England, many being added by exchange with other Botanic gardens, eg Calcutta. Banks set up a system to hold rare material at Kew for a year after it flowered, after which time it was shared.

When the young Carl Linnaeus died, his father's Herbarium was offered to Joseph Banks, who arranged the purchase. The Linnaean Society was established in London 1788 and looks after this collection today.

Australia.
The experience from Banks' time in New South Wales on the Endeavour voyage gained him much useful knowledge. He actively promoted the settlement of Botany Bay and when the penal settlement there was approved, he organised the biological colonisation. Each ship carried sheep (including merinos), cattle, seeds, cuttings and live plants. In 1787 Banks 'arranged' the first importation of merino rams to England to found the King's flock at Kew. He remained much involved in the early NSW settlement, including helping to choose the Governors and acted as a 'consultant' on a wide range of matters. The publication of the Bank's Florilegium (1980-87) was published partly through the efforts and funding contributions of Australian parties.

At Home.
Banks married Dorothea Hugessen in 1779 but they had no children. Both his sister, Sarah Sophia Banks who lived with them, and his wife worked tirelessly to support Banks with all his work. Daniel Solander also lived with the family and was like a brother to Banks. Lady Banks nursed Solander before he died and Banks was much affected by his death. Their home in Soho Square, his library and herbarium became a meeting place for many other scientists. He set up a large garden as an experimental station at Spring Grove, Isleworth, near Kew.

Conclusion
Sir Joseph Banks died in 19 June 1820. His most visible legacy is at the Royal Botanic Gardens at Kew.

As a young man he was purposeful, passionate about plants and creatures. He could be loud, confident, sometimes demanding, and indulged fully in the many good things available with his wealth and connections' In later years Banks gained respect for his abilities as a naturalist; the voyage with Cook; his involvement in the settlement of New South Wales and his contributions while President of the Royal Society. (At first there were stormy meetings about his qualifications for the role after the term of Sir Isaac Newton, but he was approved and supported, but seemingly "he could not always keep the peace and unanimity." He "never abused his trust nor exerted his influence but for the good of mankind" (Weale, 1854). Banks was influential in many fields, always generous with his time and resources. His "entrepreneurial skills were aptly acknowledged in the Florists' Journal in 1840 which assessed him as being a man having no pretension to profound knowledge himself but excellent tact in finding out and great liberality in rewarding those who had" (Hepper, 1988, p.11).

After Banks' death and the death of the King the same year, the Gardens at Kew, then fifteen acres, did not progress until the appointment of Sir William Hooker in 1841. Ownership was transferred from the Crown to the State. By 1846 the area had increased to 250 acres and is now 300 acres (120 hectares) with vast living collections from around the world, some seven million specimens in the herbarium, and an innovative earth covered building named for Sir Joseph Banks, which houses the outstanding Economic Botany collections, library and large exhibition hall. The work of the Royal Botanic Gardens Kew today is to study and save plants for life – when in Banks' time the emphasis was on more on acquisition and the economic benefit of plants for the Empire. Surely Banks, and the King, would be astonished at the achievements of Kew today which has exceeded, beyond all hopes they had, to make it serve a useful purpose.

Places and Plants connected to Banks.
The British Museum now holds the Banks' immense natural history collections with some duplicates held elsewhere. His letters and papers had been placed in the care of the British Museum. Somehow they were repossessed by Lord Brabourne and sold through Sotheby's for £182.19s in 1929. They are now widely dispersed in Britain, Australia, (some in the Mitchell Library in New South Wales), New Zealand, Canada and America.

Joseph Banks' name is well known here in Canterbury. Cook named Banks Peninsula for him, but thought it was an island.

Some of the plants associated with Banks include; the genus *Banksia*, from Australia; the rose, *Rosa banksiae* or Lady Banks' rose, which was named after his wife Dorothea (this rose had been discovered at a Guangzhou nursery south China in 1807 by William Kerr, the Kew sponsored botanical collector based in Canton, China from 1803-12); *Phormium tenax* (flax) discovered in New Zealand by Banks and later introduced to Britain. New Zealand plants bearing Banks' name include; *Blechnum banksii*, a coastal fern; *Cordyline banksii* (one of the cabbage trees); and *Pterostylis banksii*, a ground orchid.

In 1998 The Macmillan Brown Library at Canterbury University acquired Parts 28-31 of Banks' Florilegium (plates 586-673) covering the Society Islands (Tahiti) in the marvellous Alecto Editions version which used the original 18th century printing plates and traditional handcraft methods of colour printing. This set complements the New Zealand Parts, which had been acquired on publication some years ago with the aid of a substantial gift from the painter Bill Sutton (library.canterbury.ac.nz).

Adrianne Moore

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Friends' Groups

Volunteer register update

The Society known as the Friends of the Christchurch Botanic Gardens Inc was established to preserve, protect and promote the Christchurch Botanic Gardens. The association was planned to be a friendly and relaxed group of friends able to contribute and feed their passion about plants and enjoyment of the whole Botanic Garden experience. At that time it was recognised that some people would wish to provide financial assistance only and that others would wish to participate in one of the many activities of the Society including practical work in support of Gardens staff.

Over the years the Committee has arranged various activities to cater for all members interests and has maintained a register of volunteers who want to help with a specific area of Society work. That register now needs updating. With this in mind the subscription notices to be issued with the Annual General Meeting documentation this year will have more detailed provision for members, who so wish, to record the areas in which they would like to offer their services. This applies to both old and new members.

Guiding Group Report

"Everyman, I will go with thee, and be thy guide." Anon.

Prior to Neil and Faye Fleming setting up the Friends' Guiding Group, most of the guiding in the Gardens was in the hands of a few keen members of the Friends and the Gardens' Staff. In August 2003 Faye and Neil took on the formation of the Guiding Group. Today they continue to facilitate our monthly development meetings. We are now twenty-two strong, including our mentors.

Most of the guides were at first completely inexperienced but that has now changed. We are well trained, knowledgeable and confident in what we do. We are no longer in awe of fronting up to our clients, no matter how many. Gone are the days when we tagged along with one of the few experienced guides. Within the Group we have learned from Faye and Neil all the basics in dealing with the public, how to research our own material from within and beyond the Gardens. This newly found knowledge is written up and shared with others. Our files are bulging.

Some idea of our activities can be gained from Bob Crowder's monthly reports on tours leaving from the Museum at 10am and 1-30pm. For the season just ended we had 628 clients and 100 blank days. The clients come mainly from the UK and North America. In February the morning session attracted these people in equal numbers but by March the morning session was predominantly N. American and in the afternoon mainly from the U.K. In addition to these tours we guided large groups from the American Elder Hostel tours (up to 40 each month). We serviced on an increasing scale, other tour parties from both NZ and overseas, Garden Clubs, U3A Groups, school parties, and some one-off specials, such as a horticultural club from the UK. We are casting our net further afield in an effort to promote further the Christchurch Botanic Gardens. Incidentally, up until the end of March fees from guiding amounted to over $5,000 for the season.

Several of our members find not only a growing confidence in what they do, but are also are aware of an individual satisfaction derived from striking up a special rapport with their clients. Here are three examples:

- One guide, with an elderly Queensland farmer in tow, hit it off immediately, each sharing a common interest in both trees and farming. Two hours later they parted only to correspond later about the ancient art of hedging and 13th century botanical names.

And then there was Jen and one lone Frenchman with little or no English. Jen, equally had little French. How did they communicate? Simply through the medium of botanical Latin. A great story.

Bob extends his association with his clients by taking them for coffee at the Curator's House.

The Friends, and in particular the Guides, owe a great debt of gratitude to Neil and Faye for their input of many hours of solid work and for giving us the benefit of their extensive expertise in facilitating our meetings. The result; we have a professional and dedicated group of guides.
Neil O'Brien

Appreciation from American Horticultural Society

As reported in our last Newsletter the American Horticultural Society presented the Friends with a one-year membership of that Society in appreciation for a tour of the Botanic Gardens arranged by the Guides

Following that advice an Identity Card in the name of the Friends of the Christchurch Botanic Gardens Inc has now been received from the American Horticultural Society. That ID Card allows a member of the Friends and travel partner free admission to select shows and gardens as listed on the American Horticultural Website www.abs.org.

The ID card is held by Jim Crook and is available for issue to any member of the Friends planning a visit to the United States up until 31 December 2007.

Propagators Report – May 2007

Mild autumn weather has given us good plant growth and although our plant stocks were much reduced by a good February Plant Sale, we can report vigorous growth still, going into winter. Flowers are of course scarce and it is colour that sells especially to the inexperienced gardener. The February Sale was held on the last day of the Christchurch Floral Festival. We had a lovely day

for it and while the events of the Festival drew crowds, sales tailed off towards lunch time. The Sale is good publicity for the Friends and the Gardens and there was no shortage of willing helpers.

We put out another e-mail sale list for deciduous shrubs and offered some grasses at a reduced price, so have achieved a good clearance. Malcolm Shirlaw gave us fewer miniature bulbs this year and almost all were sold un-potted off the Trolley. Esme Alpes displayed them with pictures and they went quickly. We still have many potted bulbs, now showing green, for selling as they flower. The Succulent Collection is growing in variety and size; they sell well especially when in dramatic flower.

Don Bell had to adjust the irrigation system several times during the hot weather, but with hand watering twice a week few plants suffered except those with heavy leaf. We are still using the pumice and sawdust topping to cut down on weeds and maintain soil moisture; about an inch of topping well pressed down is needed. The mister bays in the Quarantine House are working well except when spray drift got onto the electric heater and shorted the system. Gregg got the electrician in and Neil and Don, with ingenuity and a sheet of clear plastic, have made sure that this will not happen again. No plants suffered from the experience.

The Perennials Team has grown to seven. But we are really suffering from lack of new helpers in the Trees, Shrubs & Natives section. Many hands do lighten the load and there are many chores relating to sales, or that can be done sitting down, that do not need great physical effort. We normally work 3 hours on Tuesday mornings with a change to afternoons in winter. If you can offer us any time, it will be much appreciated.

Our next Sale date is Saturday 22 September: Bulbs and Early Plants will be offered, 9am - 1pm. Put this date in your diary and if you can help let me know.

Helen Constable, Co-ordinator, Propagating Teams
980-9358 hrcon@paradise.net,nz

Snippets

A penny used to eradicate bee & hornet stings. A story that was sent in, for you gardeners and outdoor types who will encounter bees and wasps in the future.

“A couple of weeks ago I was unfortunate enough to get stung by both a bee and hornet while working in the garden. My arm swelled up so off to the doctor I went. The clinic gave me cream and an antihistamine. The next day the swelling was getting progressively worse so off to my regular doctor I went. Infected arm - needed an antibiotic. What was interesting is what the Doctor told me; ‘The next time you get stung put a penny on the bite for 15 minutes’. I thought, wow, next time (if there ever is one) I will try it.

Well, that night Shelley's niece got stung by two bees. When she came over to swim I looked at the bite and it had already started to swell. So off I went to get my money. Taped a penny to her arm for 15 minutes. The next morning, there was no sign of a bite. Wow, were we surprised. Her niece, we decided, just wasn't allergic to the sting.

Well, guess what happened again on Saturday night. I was helping Shelley dead-head her flowers and - you are right - I got stung again two times by a hornet on my left hand. Was I ticked. I thought, here I go again having to go to the doctor for yet another antibiotic. Well I promptly went into the house, again got my money out, and taped two pennies to my bites and then sat and sulked for 15 minutes. The penny took the string out of the bite immediately. I still wasn't sure what was going to happen.

In the meantime the hornets were attacking Shelley and she got stung on the thumb. Again the penny. The next morning I could only see the spot where it had stung me. No redness, no swelling. Went over to see Shelley and her’s was the same. Couldn't even tell where she got stung.

Then Shelley got stung again on Monday night on her back while cutting the grass. This penny thing is going to make us money at school. Again it worked.

Just wanted to share the marvelous information in case any of you are experiencing the same problem at home. We need to have a stock of pennies on hand at school and at home. The Doctor said that somehow the copper in the penny counteracts the bite. I would never have believed it. But it definitely does work. So remember this little bit of wisdom and pass it on to your friends, children, grandchildren, etc.”

14 FRIENDS OF THE CHRISTCHURCH BOTANIC GARDENS

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