FERNGLEN NATIVE PLANT GARDENS NEWSLETTER

Spring 2017

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1. Curators Report Spring Flowering

Once again Fernglen Gardens were left without curator while contract issues were being sorted with the new contracting company to the council. Many thanks to Kelly the Treasurer for her perseverance in ensuring Malcolm's contract to maintain the gardens was reinstated.

Early spring flowering plants such as carmine rata and rangiora have done their dash, but there are lots of specimens flowering in their wake. Several Three Kings Islands plants are worth mentioning. The bushy milk tree, *Paratrophis smithii*, is sporting a great array of male spikes on its long branches. A bit nearer the road, the rare plant *Pennantia baylisiana*, is producing buds. Still closer to the road a 4m high hybrid *Pennantia* is covered with inflorescence. Next to this specimen is kaikomako,

Another Three Kings plant worth looking at, just below the Alpine House, is

Elingamita johnsonii, which is displaying dozens of berries. Just inside the entrance the Mackenzie country kowhai, *Sophora prostrata*, is flowering well with smaller flowers proportionate to its stature. Scrambling around, on the ground below, is the creeping fuchsia with its unusual erect petal-free flowers. Also within this garden plot is the Marlborough rock daisy, which has large leathery leaves and showy, white, yellow-centred flowers.

Several parts of the main garden area are brightened up at this time of year by clumps of white flowering iris, *Libertia ixioides*. Another monocotyledon scattered around the garden is the showy sedge tuhara (*Machaerina sinclarii*) sporting rust-brown spikelets on long stalks.

Various Pomaderis and Pimelia species are flowering now. The tree daisy *Olearia cheesemanii* is another specimen, brightening up the darkish area beside the gazebo.

Behind the gazebo a 4m high whau (NZ mulberry) with its large heart-shaped leaves, features clusters of white flowers. Other trees with conspicuous flowers are hinau (lily of the valley tree) and makamaka, a relative of towai, with creamy-coloured flower bunches. The flower structure is like that of the cabbage tree.

One spring flowering plant which seems to be in decline in the Fernglen-Kauri Park area is puawananga, the native clematis. It seems some years now since the local bush was lit up with outbursts of clematis flowers. However on a recent tramp in Waitakere's regenerating bush, it was pleasing to see great dashes of white from the flowering clematis and also from the prolific-flowering *Olearia rani* (a tree daisy species). *Olearia rani* can be seen from the lower track in Fernglen.

Several weeks ago ten Massey University botany students visited with their lecturer. They found the Ben's Ridge plant display particularly useful where it was easy to see flower structures on some specimens. In September a dozen Forest and Bird members enjoyed a morning visit.

2. Pest Free Kaipatiki

The Kaipātiki Restoration Network brings together volunteer bush restoration groups in Northcote, Birkenhead, Birkdale, Beach Haven, Glenfield and other parts of the Kaipatiki Local Board area with support from specialists in the Parks, Biodiversity and Biosecurity Departments. Fernglen has been participating in the Pest Free Kaipatiki project. There are more than 160 reserves in the Kaipatiki Local Board area, we have some work to do to stay on top of pest populations. Some of our volunteer groups have begun a pest monitoring, and setting traps.

Dennis Worley and Steve Cook Fernglen committee. Laying PFK chew cards -picture from North Shore Times

To date Steve Cook has made an excellent start in pest eradication at Fernglen. Jill is engaging Kauri Road and Hebe Place in the Halo effort to eradicate pests in perimeter properties. PFK has the vision whereby birds and other native wildlife flourish, and everyone works together to support our natural heritage. This is aligns with the government target of becoming Pest free by 2026. The commitment is to eliminate the possums that shred our native trees; the rats and other predators that eat native baby birds and eggs, and the weeds that strangle native bush.

The North-West Wildlink is expected to provide improved migration routes from Tiritiri Matangi Island, to Shakespear Park, and across Birkdale /Birkenhead to the Waitākere Ranges.

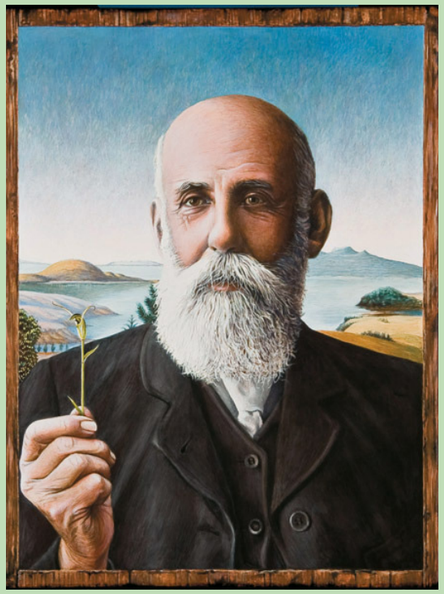
For those with a technical bent check out the following link

https://cacophony.org.nz/

Using computer technology to trap predators and record the increased birdsong.

3. Thomas Cheeseman (1846-1923)

Born in Hull, Yorkshire, in 1846, Thomas Cheeseman immigrated with his family to New Zealand in 1854.His father, dissenting Methodist minister Rev. Thomas Cheeseman, was an avid astronomer. Family lore credits 8 year old Thomas for saving the ship the family arrived in,by alerting the Captain to the sound of the keel scraping the reef at North Cape. After settling in Auckland he showed an interest in botany from an early age. Influenced by Hooker's Handbook of the New Zealand Flora (1864, 1867) and The New Zealand Institute of 1867 (which later became the Royal Society of New Zealand). Thomas started what became a popular field club with his three sisters, Emma, Nelly and Clara. Cheeseman published his first paper, "On the Botany of the Titirangi District of the Province of Auckland", in the Transactions of the New Zealand Institute, volume 4, 1872. This remains the only account of the vegetation of the Waitakere ranges before it was drastically modified by settlers. Dr Leonard Cockayne, New Zealand's most famous plant ecologist, noted how accurate and comprehensive this account of plant life was and marvelled that Cheeseman's botanical knowledge had been acquired "unaided in any way". A prolific writer his works were according to Cockayne "of high significance for agriculture, horticulture and forestry", and his greatest contributions were to floristic botany.



Portrait of Thomas Cheeseman: Artist -Hamish Foote from the "Faces of Nature" exhibition in Wellington 2011

On reading Charles Darwin's book The Fertilisation of Orchids (1862), he made a detailed study of cross-pollination in the greenhood orchid, Pterostylis. This was published in the Transactions of the New Zealand Institute in 1873. His correspondence with Hooker at Kew, was passed on to Hooker's good friend Darwin. Darwin acknowledged Cheeseman's account of pollination in Pterostylis in his later publication. Thomas received a copy of this edition, inscribed "With the Author's compliments and respect".

In 1874 he was appointed secretary of the Auckland Institute and curator of the museum. The museum was a small, two-roomed, weatherboard building in Prices Street. His sister Emma prepared taxidermy bird specimens for him at home. All three sisters were skilled botanical artists. For 50 years The Auckland Museum was developed to a high standard by Cheeseman and his three staff. Punctual, neat and exacting some of his work remains part of the collection today. He was noted to be a fun and engaged teacher for young people, but could be irritated and rude to adults he perceived to be pompous.

Cheeseman, his wife and two children, spent vacations botanising much of New Zealand. Expeditions included the Kermadec Islands, Three Kings and the Cook Islands. He was published in the prestigious Transactions of the Linnean Society of London. His observations and the new species he described paved the way for his Manual of the New Zealand Flora. During his career, Cheeseman described three plant genera, some 140 species, 67 varieties and one forma. A genus and 29 plant species from New Zealand and the Cook Islands were named after him. He was noted for writing on the origin of the New Zealand sub Antarctic flora. He gained fellowship of the Linnean Society of London, fellowship of the Zoological Society, membership of the Botanical Society of Edinburgh, presidency of the New Zealand Institute in 1911, an original fellowship of the New Zealand Institute and, the Gold Medal of the Linnean Society.

He planned the Auckland War Memorial Museum, but unfortunately died before it was built. The museum received Cheeseman's extensive herbarium, "a great botanical asset". In 1946 the Cheeseman Memorial Hall was opened in the museum and the memorial lecture continues.

Botanical Art During a Naturalists Field Club Trip to Rakino island (1882-1883)From the Auckland Museum Collection

4. The Cheeseman Herbarium

For those who may be searching for important references do not forget the Auckland Museum .The herbarium is based on the collections Thomas F. Cheeseman made between 1870 and 1920 (and is occasionally termed the Cheeseman Herbarium). It contains many historical specimens and numerous types. The herbarium provides basic means by which the Museum´s Botany Department carries out its function of collection and preservation of botanical materials, education (through public enquiries, individual and group visits, outreach programmes, and the display of material), and research and publication on various aspects of the New Zealand flora. A computerised herbarium management system has been developed for the herbarium (VERNON) and since 1989 all new accessions have been entered into the database. There have also been ongoing projects, funded by the NZ Lottery Board, to enter backlog records. As of 1 July 2003 over 189,705 records have been databased which includes all the non–vascular specimens and all the native NZ specimens.

http://www.aucklandmuseum.com/discover/collections/about-our-collections/natural-science/botany

Important collections The herbarium contains the main collections of the following botanists: J. Adams (N.Z.) J.E. Attwood (N.Z.), A. Bennett (England), J.E. Braggins (N.Z. liverworts), E.K. Cameron (NZ & Pacific), W.M. Canby (U.S.A.), T.F. Cheeseman (N.Z. & Rarotonga), R.C. Cooper (N.Z.), L.M. Cranwell (N.Z.), P.J. de Lange (N.Z.), R.O. Gardner (N.Z. & Pacific), E. Craig (N.Z. & worldwide ferns), E.D. Hatch (N.Z.), B.W. & G.C. Hayward (N.Z.), P. Hynes (N.Z.), V.W. Lindauer, I.C. Martindale (U.S.A.), H.B. Matthews (N.Z.), E. Phillips Turner (N.Z.), F. Shakespear (N.Z.), J.H. Simmonds (N.Z. & Australian eucalypts), A.E. Wright (N.Z. & Tonga).

Ancillary Collections: Associated with the herbarium is an excellent botanical library containing many rare and early works. The main Museum Library also holds manuscript notes and letters by J. Adams, J. Banks, J. Buchanan, T.F. Cheeseman, L. Cockayne, W. Colenso, J. Edgerley, A. Hamilton, P. Hynes, T. Kirk, J.D. McComish, H.B. Mathews, B.E.G. Molesworth, D.L. Poppelwell, and A. Wall.

An important collection of botanical art includes watercolours by Fanny Osborne, Jessie Brownlee, Eleonore Blumhardt, Eunic Reekie, and Ellen M. Cheeseman, and the original pencil drawings of Cheeseman´s *Illustrations of New Zealand flora* executed by Matilda Smith at Kew. Modern illustrations of plants (from calendars, advertising material, books etc.) are also collected and added to a systematic file of early original illustrations taken from, e.g., Curtis´s *Botanical Magazine*, Loddiges *Botanical cabinet*, *The garden*, and *Florist* periodica ls.

Photographs of most type specimens have been taken. Types (and other specimens made by early collectors) of New Zealand material received on loan from overseas herbaria are photographed as a matter of course. A specialist collection of ´fern books´ (bound collections of ferns made by amateurs and professionals such as Eric Craig) is held, along with a small wet collection of flowers, fruit and algae. A substantial collection of kauri gum is also held.

5. Olearia cheesemanii

Common name is the Streamside tree daisy or Cheeseman's tree daisy the current conservation status of this plant is "At Risk- Naturally uncommon".

This vascular native from the Asteraceae family is a bushy shrub with narrow pointed thin leathery dark green leaves that have an uneven edge. Twigs have a groove along the upper side. The leaves are 5-9cm long by 2-3cm wide. Flowers are white or yellowish, in a loose cluster, with a body nearly 1cm long.

A shrub or small tree 0.1-1(-4) m tall. It is sparingly to heavily branched (depending on growing situation) The bark is grey and flakes in long strips. Its branchlets are grooved and densely covered in buff tomentum. The petioles are stout, winged, and finely tomentose, up to 20 mm long. Variable shaped leaves are potentially present on the one individual, and can be linear to narrow-lanceolate, or oblong-lanceolate, coriaceous, margins sinuate, or irregularly but distinctly toothed, apex sub-acuminate dark green to grey-green above, undersides clad in fine, appressed, silky-hairy, and white to pale buff hairs, these darkening markedly along veins and midrib. Inflorescence in a lax, much-branched corymb up to 150 mm diam. Seeds are linear, finely grooved, achene and 2-3 mm. It is most likely to be confused with the allied *O. arborescens* from which it mainly differs by its narrower lanceolate leaves, usually smaller stature (in the wild at least), and habitat preferences.

It flowers August – January with white or yellow flower, and fruits November -June. Grown from semi-hardwood cuttings and fresh seed, it is a very fast growing and attractive floriferous shrub, but tends to be short-lived. It does best in moist soils in sun or semi-shade.

It is endemic to the North and South Islands. In the North Island known from the Ohinemuri River south to the Tararua Ranges. In the South Island confined to North West Nelson and the vicinity of Westport near Ngakawau. Its normal habitat is in rocky, river gorges, in or near the flood zone. It is threatened by weeds such as mistflower and buddleia that invade and smother the gorge side habitat of *O. cheesemanii*. Surveys of northern sites indicated a population structure skewed toward senescent adults, with few juveniles and seedlings persisting due to competition from these and other smaller weed species. River conversion for hydroelectric schemes may also be a threat. Dams disrupt natural flood cycles that help create new habitat and dislodge weeds. Accurate figures on decline are not available, and the exact species distribution is unknown. It would seem this species has its strong holds in northern South Island. Further survey is likely to reveal new populations, especially in the Kaimai Ranges, Mamaku Plateau, Raukumara, Te Urewera, Ruahine and Tararua Ranges.

Olearia cheesemanii in front of the education centre last week.

6. How to grow your own kowhai

For more information see www.doc.govt.nz/projectgold

The main reasons for eco-sourcing in native planting projects are:

-To avoid the risk of planting species which aren't native to their locality and which could become invasive.

-To maintain the distinctiveness of a local flora. For many species the appearance, physiology and genetic make-up vary considerably throughout their range in New Zealand

-Local native wild plants are best suited to local conditions and therefore typically grow better than those sourced from elsewhere.

Preparing your seeds for germination:

Drag each seed lightly across the enclosed sandpaper about 6–7 times (hold the seed so the small dark depression is away from the sandpaper). This will scratch the surface enabling water to penetrate the seed and start the germination process. Take care not to scratch too deeply. Spring and summer are the best times to do this.

Sowing seeds:

Fill the provided six-cell plastic punnet with potting mix – alternatively you could use a small yoghurt pottle or a seed-raising tray. Whatever container you use, ensure it has plenty of drainage holes in its base. Thoroughly water the potting mix and leave to drain each cell make a hole in the mix to a depth of about 1 cm (a nail is good for this).Place one seed into each hole and fill hole with potting mix

Waiting for germination:

Put punnet in warm place out of direct sunlight.

Water occasionally to ensure the potting mix does not dry out

Germination should be evident 2–4 weeks after sowing, depending on soil temperature and

other factors.

Care after germination

-Once seedlings appear keep them in full sun.

-Do not over water.

-Your new seedlings can stay in their punnet until they are about 8 cm tall and roots are beginning to come out the bottom of the pot.

-At this point it's time to move them on to a larger pot on their own. A good sized pot at this

stage is about 10 cm x 10 cm.

-Extract your seedling from their cell (push from the bottom) taking care to avoid damage to

the roots. Try and ensure soil remains attached to the root plug that you remove.

-Partially fill the new larger pot with potting mix, place the seedling centrally in the pot and fill the remaining space with potting mix until level with the base of the seedling. Water the pot.

-Your seedlings will be happy in a pot this size for the rest of their first year.

Years 2–3

-You'll need to repot your plants into a larger pot (about 1.5 litre capacity) after their first year to ensure they have plenty of resources to get them to a size suitable for planting out in the wild.

-A suitable size for planting out might be reached after just two years but could take three

years. Ensure some slow-release fertilizer is applied each spring.

Things to watch out for:

Protect your plants from slugs and snails (and rabbits too if they're likely to be a problem in your area).Be careful when using herbicides in the garden. Kowhai are particularly sensitive and easily damaged.

Kowhai, Sophora microphylla

Kowhai, Sophora microphylla', from An Encyclopaedia of New Zealand, edited by A. H. McLintock, originally published in 1966.
Te Ara - the Encyclopedia of New Zealand
URL: http://www.TeAra.govt.nz/en/1966/25974/kowhai-sophora-microphylla (accessed 02 Nov 2017)