

Plants Around Wellington City

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INTRODUCTION

Wellington is a very green city. Cynics may attribute this, in part, to the amount of waste ground in steep slopes and gullies which, even by Wellington standards, is no use for buildings and so is left to plants. But even apart from this we still have many green playing fields and formed parks, the great Otari Native Botanic Garden, the Botanic Gardens, Khandallah Domain, and the still large remains of the Town Belt. Most residential sections have something in the way of lawns, flowers and shrubs and the City authorities of recent years have increasingly given us flowers and trees around the main commercial areas.

The intention of this article is to speak in a general descriptive way of the plants and plant communities one meets throughout the city. The original plant cover of the district is not within my scope, though mention will be made of the many sturdy survivors still visible. Except in passing, I won't deal with the particular character and content of those repositories of plants, the Botanic Gardens and Otari or even the Khandallah Domain; they deserve more scientific and extended treatment than they could be given here. I am concerned mainly with the general range of plants and plant communities to be met and then, perhaps with some of the particular types of area where they are to be seen. Many of the statements made are generalisations drawn from the experience and impressions of the writer over many years. I have used common plant names in most cases where such generally accepted names exist. Otherwise, and where there is a particular need to differentiate species, I have used botanical names. So far as adventive species (dicots) are concerned, Vol. IV of the Flora is my reference source (Webb *et al.* 1988).

TREES

Very little remains of the original bush cover of Wellington. Part of Otari Bush, in particular, and of the Khandallah Domain and even of the Botanic Gardens (towards the Glen) are reasonably representative of the former forest, though badly possum-browsed. There is some tawa bush on the steep sides of the Ngaio Gorge which must have its origins back in time. Otherwise practically all the trees and shrubs around Wellington have been planted, have propagated from plantings, or have come in as second growth after fires or clearing.

Taking first planted trees, very prominent examples are immigrants from the western U.S.A. *Pinus radiata* (plus a little *P. muricata*) and *Cupressus macrocarpa* as in most of New Zealand, have been planted lavishly by our

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forebears and have grown enormously in many cases. Many of these trees, particularly along roads and streets, have become hazards from their age and size and are now beginning, at great trouble and expense, to be taken down. Both pines and macrocarpas reproduce readily from seed, although fortunately they need full light to do so; so that small gaps in substantial plantings (as on Tinakori Hill) tend to be filled with second growth natives. Another U.S.A. native, *Chamaecyparis lawsoniana*, is not so common. Australian gums are well represented here, with some wattles, particularly *Racosperma melanoxylon*. Another “acacia” is the feathery *Paraserianthes lophantha* which germinates so well and grows so fast that it can easily dominate a significant area where there is little competition. What other planted non-New Zealand trees are there? Oaks and ashes are common street plantings, with the London plane. Also found, in Queens Park, Thorndon, are beeches, limes, sycamores, cherry laurel (with the occasional true bay laurel) and silver birches. Elders and tree lucerne, with their prolific seeding and rapid growth, are very frequent, while poplars and willows are less common but more noticeable.

Native trees are by no means absent, but here we must, as far as possible, distinguish between probable local species and those which have been introduced from other New Zealand districts. The latter class includes some very common and conspicuous cases. Pohutukawa (including a few of the Kermadec species) is one of the commonest planted trees in the district, and thrives splendidly, often reproducing itself from seed, so that the shaggy bark, colouring leaves and aerial roots are an every day sight. The brief flowering season brings us more pleasure, prolonged by the crimson drift of fallen stamens seen so often on footpaths and roads.

Also brought in from the north are karo and *Pittosporum ralphii*, *Hoheria populnea*, the puriri and various species and forms of *Pseudopanax* (e.g., *P. lessonii*). Mangeao is also present and reproducing on Tinakori Hill as are red and black beech and kamahi. The kauri is by no means unknown in single trees here and there, but in Otari, not only are there those on formal show in the gardens but well over a hundred were planted by Cockayne in the fringe of second growth scrub on the western slopes of the reserve.

Local natives which probably belong here (although the provenance of some individuals or groups can't be guaranteed) include cabbage tree, hinau, mahoe (probably the commonest), titoki, tawa, totara, ngaio (though the Tasmanian species is also common), both broadleaf species, fuchsia, akeake. Without arguing about the origin, karaka is abundant and often planted. Fivefinger, pate, lancewood, pigeonwood, kaikomako, putaputaweta, mapou, taupata, akiraho, kohuhu, tarata and heketara eventually come into most second growth areas. We must not forget the local tree hebe (*H. parviflora* var. *arborea*) which still manages to hold on here and there.

SHRUBS

Of the shrubs a great number originate elsewhere, including the two great dominants, gorse and broom. Others are Spanish heath, Himalayan honeysuckle, Darwin's barberry (and the common barberry), hawthorn, lupin, boxthorn and *Chrysanthemoides monilifera*. Hakea is locally abundant and *Chrysanthemum frutescens* must be in our top ten flowering foreigners. Common hedge plants have also slipped into wild communities, sometimes growing large enough to be classified almost as trees. These include privet, escallonia, abelia, euonymus, *Lonicera nitens*, pyracantha and cotoneaster. There are, of course, hundreds of flowering shrubs to be seen in private and public gardens, including azaleas, bottlebrush, flowering currants and lilac.

Native shrubs are a mixed bag. The common koromiko is often virtually a weed, but there are many hebe nursery forms around based on such species as *H. diosmifolia* and *H. speciosa*. Manuka and kanuka are not absent but are rarer than in most districts. Rangiora is fairly ubiquitous as are hangehange, kawakawa and some coprosmas e.g., *C. grandiflora*, *C. robusta*, *C. lucida*, *C. rhamnoides* and *C. areolata*; *C. rotundifolia* and *C. propinqua* being much less frequent. *Brachyglottis greyii* is often planted but there is frequently a suspicion of mixed nursery origins. Tauhinu is present, but not usually thick, over a wide area and flax of both species abounds, plus some fancy cultivars. *Pseudopanax anomalus* and tree nettles are well known and poroporo (nearly always *Solanum laciniatum*) is an early arrival in second growth scrub. *Meliclytus crassifolius* is frequently met with on coastal slopes, occasionally even a little inland. One plant of matagouri is known to the writer (other than at Otari).

LIANES AND SCRAMBLERS

In this group there are some odd introductions. The vituperated old man's beard (notwithstanding Katherine Mansfield's nostalgia) is widely spread as are both species of cape ivy. Forms of ordinary ivy are rather too frequent as are convolvulus and honeysuckle. *Elaeagnus* is a rampant grower reaching astounding heights among trees (e.g., 10 m or more on Tinakori Hill). The cup and saucer vine (*Cobaea scandens*) is present in a few places as is the banana passion fruit. Blackberry and periwinkle occur often and the wild sweet pea and morning glory sometimes. Soft creepers like fumaria, vetches and kenilworth ivy are seen here and there.

Common natives are muehlenbeckia (*M. australis* and *M. complexa*), bush lawyer and both *Parsonsia* species. Then we have various climbing ratas (*Metrosideros diffusa*, *M. fulgens* and *M. perforata*) with the planted *M. carminea*, passionfruit, *Clematis forsteri* and *C. paniculata*. *Calystegia soldanella* and *C. tuguriorum* are known with the native passionfruit locally plentiful. Supplejack is rare outside actual forest areas.

GRASSES, SEDGES, ORCHIDS AND HERBS

(Not including flowering garden escapes)

Under this heading the most abundant plants would be grasses – mostly lawn and pasture grasses but with a few weed species such as summer grass, kikuyu grass, paspalum and couch. About the only native grasses at all familiar to the eye would be the two northern toetoe, the bush rice grass and the silver tussock. Having mentioned toetoe, unfortunately, it must be admitted that pampas grass is on the increase everywhere. Of the sedges the commonest would be hook grass, gahnia and *Cyperus ustulatus*.

Wellington has a fair orchid flora. Especially prevalent are *Microtis unifolia* and *Thelymitra longifolia*. Both *Earina* species are to be found and *Chiloglottis cornuta* and *Pterostylis banksii* are locally abundant – often under pine and macrocarpa plantations. Native monocotyledons are *Astelia*, *Collospermum*, *Libertia* (usually *L. ixioides*) and *Dianella*. Introduced ones are onion weed (*Allium triquetrum*) and the evil wandering willy (*Tradescantia fluminensis*), which inhibits virtually all germination wherever it clothes the ground.

Dicotyledon herbs (mainly adventives) are so various that any even a moderately comprehensive list would be impossible. Prominent ones are fennel, foxglove, thistles of different kinds, *Solanum* species, balm of Gilead, horehound and other labiates, *Oxalis* species, impatiens, wild radish, hemlock, ragwort, inkweed and flannel leaf.

FERNS AND FERN ALLIES

Tree ferns around Wellington are often mamaku or ponga, both being virtually weeds in some damp, shady places. *Dicksonia* species are rare except in true bush. Bracken still thrives in many places and indeed new fronds appear sometimes from rhizomes that have been dormant for years.

Of the other ferns the commonest would be *Asplenium oblongifolium*, *A. bulbiferum*, *Phymatosorus pustulatus*, *Blechnum filiforme*, *Lastreopsis glabella*, and *Pellaea rotundifolia*. Less common but still familiar are *Blechnum chambersii*, kiokio, *B. procerum*, *B. discolor*, *B. fluviatile* and *B. membranaceum*, *Asplenium flaccidum*, *A. terrestre*, *A. flabellifolium*, *A. hookerianum* and *A. polyodon*. *Polystichum richardii* is the commonest of its genus, followed by *P. vestitum* and rarely *P. silvaticum*. Some reasonably well spread species are *Adiantum cunninghamii*, *Pneumatopteris pennigera*, *Anarthropteris lanceolata* and *Grammitis* species. *Doodia media* and *Arthropteris tenella* are abundant in isolated areas. *Pteris tremula* and *P. macilenta* are to be seen here and there, as is *Leptopteris hymenophylloides*. *Anogramma leptophylla* is known from one site. Filmy ferns are rare outside true bush.

A few foreigners have colonised the region, such as *Dryopteris felix-mas* and a *Nephrolepis* species. *Lycopodium volubile* is present in some low scrub and

the adventive *Selaginella kraussiana* has a prominent presence, sharing the task to a large extent of the previously maledicted *Tradescantia*.

WILDFLOWERS (GARDEN ESCAPES)

Wellington has a colourful selection of thriving garden escapes which, in spring and summer, liven up the landscape considerably. The montbretia is common on damp banks and along streams and is the main monocotyledon (unless we include onion weed). The spur valerian in its three colours of red, pink and white, is a hardy and widespread decorator of banks and cuttings. *Argyranthemum frutescens* (from the Canary Islands, like the balm of Gilead and the parsnip palm elsewhere mentioned) also likes steep slopes and banks which it often whitens over a large area. The cineraria is happily at home on some shady banks (particularly around Thorndon) and its relative *Senecio glastifolius*, which during the last decade has invaded the city along the Tawa motorway before the north-west wind, has added a different mauve shade in many waste places. The purple flowers seem almost dominant as we also have foxgloves and honesty and the agapanthus in this hue.

There are of course many others. Arum, wild ginger, beach mallow, forget-me-not, impatiens, *Erigeron karvinskianus* and (dare I say it) oxalis, are some of them.

HABITATS

It must be admitted that by far the majority of plants mentioned (except the lawn and pasture grasses) grow in wild and waste places; i.e., in substantially unattended areas as opposed to formal clipped and cultivated parks and gardens. It is these wilderness areas which, to the writer at least, are the most congenial and interesting. Living communities, built up of plants from many sources, have their own fascination while green parks with specimen trees and shrubs and weeded flower beds, however aesthetically pleasing, lack the savour of interaction and competition. Fortunately, Wellington has many of these areas of benign neglect.

Before dealing with the wilder areas we should take a quick look at the more formal parks and gardens. In the commercial centre of Wellington we have recently lost some rough scrubby banks between The Terrace and Lambton Quay. In exchange we have miscellaneous plantings around concrete buildings and along the middle of Lambton Quay. One sees some relatively unusual plants about the downtown city – exotic *Nothofagus* species, *Melicytus novae-zelandiae*, *Acmena smithii*. There are quite good collections of native shrubs and trees around the old Wooden Building and Parliament. Frank Kitts Park on the water front, an imaginative and pleasant space, has many plants such as flax and hebe bushes as well as undulating lawns, and there are gardens near the Public Library well planned for public enjoyment and relaxation. There are many more

such places, and the suburbs have very many sports grounds, gardens and parks which are full of greenery. In fact there are few parts of the town where one does not see green things, even if they are gardened. But the odd rebel is also to be spotted; the koromiko seedling growing in a crack in the pavement and the *Hypolepis ambigua* which has selected a highly specialist home in the soft mortar of old brick walls.

RESIDENTIAL GARDENS

The total number of residential gardens must be enormous. Many are modest; some are creditable; and a small number are great gardens; there would be very few garden plants of the temperate zones which are not fairly represented here. There are specialist collections; erica, rhododendrons, azaleas, camellias, chrysanthemums, roses, dahlias and so, on, but there are few homes which don't have some grass and shrubs and a few blooming plants.

WILD PLACES

This is a convenient heading covering a number of different habitats and communities. There are areas like the surviving parts of the Town Belt; there are shores and beaches; there are the cuttings and banks be they rock or clay. There are odd green corners in the railway yards and damp scrubby gullies reverted to second growth intermixed with many adventives.

Town Belt

It is convenient to talk about the town belt in terms of the official walkways which now traverse the different parts.

The Eastern Walk, running along the ridge from Seatoun towards Lyall Bay, looks over the coast and its vegetation retains some of the influence of the shore. There are a few patches of the traditional pine and macrocarpa plantings but the bulk of the area is still in a fairly early stage of recovery from repeated burnings, and is, consequently mostly low open scrub. Here and there are small groves of mahoe, coprosmas, tree lucerne, ngaio etc which apparently survived the more recent fires. Otherwise the scrub is composed predominantly of gorse, broom, the South African *Chrysanthemoides monilifera*, tree lupin, bracken and grass. Amongst this mixture are many other things.

The coastal influence survives in *Melicytus crassifolius*, *Coprosma propinqua*, *Tetragonia trigyna*, *Einadia triandra*, *Muehlenbeckia complexa* and *Disphyma australis*. The adventive weeds are legion: yarrow, cape ivy, convolvulus, blackberry, fennel, wild turnip, radish. A notable sight is the tall trunked parsnip palm (*Melanoselinum decipiens*) from Madeira, like a giant angelica. One matagouri plant is known to exist – there may be more. A few rocky places, now being overrun by *Chrysanthemoides*, retain some surviving *Pimelea prostrata*, *Leucopogon fraseri* and some orchids.

The Northern Walk area is a more complex proposition. Tinakori Hill has quite a few different habitats, although the bulk of the city, or eastern side, of the ridge is in a mature plantation of pine and macrocarpa. Throughout this area there are other trees interspersed and a substantial understorey of (mainly) native shrubs and trees. It seems probable that at the time of planting some steep gullies and watercourses were left in scrub and bush which provided a reservoir of seed for later colonisation among the plantings. Of recent years gaps have occurred in the plantation from windthrow and other deaths, and these very readily fill up with natives. The matter is complicated by the amount of planting of shrubs and trees, mainly native but not all local, in particular localities and the way in which some of these have spread by seeding.

Some parts of the plantation, because of the thickness of the canopy have mainly fern beneath them, *Asplenium oblongifolium*, *A. bulbiferum*, *Phymatosorus pustulatus*, and *Polystichum richardii*. As the canopy is broken things come in like rangiora, lacebark mahoe, taupata, karamu, raurekau, hakea, sycamore, pohutukawa, kohuhu, akeake, tarata plus oddities like privet, escallonia, euonymus, broadleaf, *Pittosporum ralphii*, and *Racosperma melanoxyton*.

On the slopes below the radio station living quarters are magnificent plantings of natives which are reproducing. Pohutukawa, maire, northern rata, mangeao, tanekaha, red and black beech, tawa. There are indeed some very fine beech trees of considerable height and girth.

It is now almost impossible to sort out how some trees came to be where they are, whether they were planted, or seeded from plantings or spread from reservoirs of original second growth. There are over 70 New Zealand trees and lianes on the Hill, but a fair proportion of these – perhaps one-third – are clearly not of local origin. Ferns are easier; the nearly 50 species are probably all local. Of planted exotic trees, shrubs and lianes there are certainly over 25. Provided no drastic disturbance by fire or clearing takes place, the flora should increase in species and gradually form a true New Zealand bush, but with many non-local species.

On the western side of Tinakori Hill is an extensive area of gorse and broom rapidly reverting to low canopy second growth bush of mahoe, rangiora, coprosma, taupata etc. This is dotted with planted New Zealand trees, with planting still continuing, of *Nothofagus* species, totara, rewarewa, ngaio and kowhai.

The Ngaio Gorge could be described botanically as several small areas of quite respectable forest separated by great stretches of rubbish – gorse, willow, broom, bracken, blackberry, convolvulus, muehlenbeckia etc. Again, there have been many plantings of natives and it will ultimately be as puzzling here as on Tinakori Hill to know the origin of some individual trees.

On the Ngaio side of the gorge there are two good bush areas. One, rather small, contains totara, titoki, mahoe, hinau, tawa, *Melicope simplex*, small leaved

milk tree and kamahi. The other piece of bush or forest, is predominantly tawa, karaka, rewarewa and kohekohe with a few nikau.

Other Waste Areas

Miscellaneous Gullies and Banks

In the hillier suburbs are many gullies and banks which up till now at least are not capable of use and therefore have been left to plants. Technically, most of these are reserves of some sort; some having been given as reserves on subdivision and the larger ones have come into the City's hands by various other means.

Around Kelburn, Highbury, Te Aro, for example there are large areas of these waste lands. Most of them are virtual jungles, having settled down as a lush compound of light second growth bush and exotics. Among the native plants will be many plants not of local origin. The natives will include mahoe, large leaved coprosma species, lacebarks, fivefingers, ngaio, hangehange, hebe, parsonsia and muehlenbeckia. There is no limit to the adventives but they will probably include acacia, old man's beard, euonymus, privet, gorse, broom, eucalypts, hakea, honeysuckle, cape ivy, wandering willy. In the absence of fire or clearing these communities will gradually change. Probably most of the exotics will disappear (except wandering willy?), and other natives will come in. Ultimately there will be heavy bush but it may have some odd components.

Karori Reservoir Reserve

This is also an area where second growth natives are coming back interspersed with planted exotics and non-local natives. There are about 45 New Zealand trees, shrubs and lianes and 20 exotics of the same classes. There are also many adventive weeds and native herbs. The natives include kiekie, which is rare except in true bush, and *Hoheria sexstylosa* which is also rare, but certainly much more local in origin than the extremely common *H. populnea*.

The exotic trees include quite a few *Cornus capitatus*, the Himalayan strawberry tree, and some very large lawsoniana trees.

Railway Yards

This corner is referred to merely for the sake of mentioning the purple linaria which seems to find the railway ballast the optimum habitat. Of course there are also the usual assortment of adventive weeds, as sorrel, catsear and white clover.

Shore Areas

A good deal of the city shoreline subtends deep water, so that littoral plants are absent. Otherwise, most of the shore is rocky rather than sandy, with relatively little in the way of mud banks or sand hills. The most common situation is a rocky shore with hill slopes rising to some height.

Of the larger plants few grow near the tideline but the odd taupata, the tree lupin and the beach mallow. As one goes up the slope the ngaio, karaka, mahoe,

akiraho, *Olearia solandri*, tauhinu, *Melicytus crassifolius* and *Coprosma propinqua* are met. Among the smaller plants are the salthorn, *Samolus repens*, *Selliera radicans*, *Einadia triandra*, *Tetragonia trigyna*, *Linum monogynum*, *Lobelia anceps*, *Disphyma australe*, the common spaniard, *Pimelea prostrata* and mountain flax. Of the smaller exotics the most common would be *Carpobrotus edulis*, sweet alyssum and the horned poppy.

APOLOGIA

It is obvious that some plants have been omitted from mention which ought not to have been. Equally, opinions will differ as to the relative frequency and importance. My tendency has been to specify the more noticeable species. Cockayne, somewhere, talks about the physiognomy of the landscape. He was talking of growth forms but I feel that many of the plants mentioned here do affect the physiognomy of the Wellington landscape.

REFERENCE

Webb, C.J.; Sykes, W.R.; Garnock-Jones, P.J. 1988: Flora of New Zealand. Vol. IV. Naturalised pteridophytes, gymnosperms, angiosperms. Botany Division, DSIR, Christchurch.

Otari Vegetation

Stan Reid¹

INTRODUCTION

A large, smooth boulder rests some 80 m from the Banks Entrance just beyond the central lawn, flanked on its left by the rock garden. It marks the grave of Dr Leonard Cockayne and his wife Maud and a viewpoint from which to obtain one's first intimate impression of the reserve for which he was botanist-architect (Fig. 1). The foreground may well have achieved his vision of a comprehensive assembly from all New Zealand of shrubby species belonging to genera that are peculiarly characteristic of our country, and species brought together for the first time from widely separate habitats are sufficiently at home to have produced new hybrids. Beyond, in the middle distance, the conserved native forest fills the Bledisloe Gorge clothing steep slopes on either side. Along with the shrub border to the right massed with native cultivars of horticultural merit, these elements reflect three facets of his broad scheme for the Otari Native Botanic Garden. If one focuses attention on the spur to the right of Bledisloe Gorge, numerous

¹ Deceased. Formerly 160 Wadestown Road, Wadestown, Wellington.