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Botanical Society Trip - Cornwall Park and One Tree Hill Domain

Anne Grace

Mike Wilcox, a forestry consultant, led about 30 Bot Soc members and friends through Cornwall Park and part of One Tree Hill Domain on Saturday 15 July 1995.

Mike has recently undertaken a study of the trees in the park for the Cornwall Park Trust Board. His report lists some 228 species of trees and larger shrubs (55 natives, 32 introduced conifers, 141 introduced flowering plants). He told us that 12 species dominate the park landscape, being: oak (*Quercus robur*); radiata pine (*Pinus radiata*); macrocarpa (*Cupressus macrocarpa*); olive (*Olea europea*); monkey apple (*Acmena smithii*); Moreton Bay fig (*Ficus macrophylla*); karaka (*Corynocarpus laevigatus*); pohutukawa (*Metrosideros excelsa*); totara (*Podocarpus totara*); puriri (*Vitex lucens*); Norfolk pine (*Araucaria heterophylla*); and poplar (*Populus deltoides* cv. 'Virginiana' and *P. nigra* cv. 'Italica').

We set out from the car park, walking in front of the kiosk where we came across the first magnificent Mediterranean cypress (*Cupressus sempervirens*) and a wonderful specimen of blueberry ash (*Elaeocarpus reticulatus*) which was very reminiscent of our own native hinau. The tree was putting on a fine show of blue berries at the entranceway to the kiosk.

Around Huia Lodge, we saw a stand of mixed exotics - Port Jackson fig (*Ficus rubiginosa*), evergreen magnolia (*Magnolia grandiflora*), holly (*Ilex aquifolium*), and European walnut (*Juglans regia*) - and the native karaka. We mused at some patches of fungus which Marie Taylor told us was evidence that there must be an old stump beneath the surface.

We then proceeded down the Memorial Steps, noting *Photinia serrulata* and 2 Chinese windmill palms (*Trachycarpus fortunei*) with their unusual epiphytes - Port Jackson fig and pohutukawa. Cornwall Park was the first locality in New Zealand where breeding of the Port Jackson fig was noted. They need a particular insect (fig wasp) to fertilise them, and it was not known here until the Cornwall Park discovery.

At this point we found our first monkey apple tree and, soon after, a grove of native species including some very strange-looking specimens. There is a huge *Coprosma robusta*, pukanui (*Meryta sinclairii*), kohekohe (*Dysoxylum spectabile*), tawapou (*Pouteria costata*), etc.

As a person who has been brought up with "things natural", it was difficult to get used to the presence of variegated and unusual versions of native species, e.g., tarata (*Pittosporum eugenioides*) and the golden totara in the grove of totara across the lawn.

Even more difficult to come to grips with was the presence of numerous "environmentally threatening" species. It took some rationalising that we were in an urban environment and distant from any native forest, before I could feel even slightly comfortable with the monkey apple, Queensland poplar (*Homalanthus populifolius*), Japanese spindle tree (*Euonymus japonica*), hawthorn (*Crataegus monogyna*), tree privet (*Ligustrum lucidum*), etc. It amazed me how conditioned I had become to feeling very negative about these trees which are, in fact, very beautiful in the right place.

We then looked over a Chinese elm (*Ulmus parvifolia*) which was devoid of greenery (hence the name "*parvifolia*" meaning few leaves) but still bore a few winged seeds. The skeletal starkness of cherry trees (*Prunus cerasus*) promised a glorious show of blossom in the spring. It was only

possible to identify the large Algerian oak (*Quercus canariensis*) from leaves on the ground. A white mountain ash (*Eucalyptus fraxinoides*) had swathes of bark hanging from its limbs and a huge Moreton Bay fig impressed with its buttressed roots.

On to the *Eucalyptus* arboretum planted in the 1930s. There are 38 species represented. Mike explained that it is difficult to differentiate the species using the leaves alone, so our observation focussed on the texture of the bark, flower buds, and the fruits which had been conveniently blown down by a storm. There are smooth-barked species such as Sydney blue gum (*E. saligna*) through stringy ones (brown stringybark *E. capitellata*) to poxy-looking ones (shining gum *E. nitens* which has great potential as a timber tree). Name plates are provided in the arboretum except for the bastard tallowwood (*E. planchoniana*) whose name plate had been removed, perhaps because its name might offend? It was in the *Eucalyptus* arboretum that we found most insect life - large gum emperor moth cocoons and a very cold female weta which our younger members helped into a safe hiding place in a cabbage tree. At the end of the arboretum we came upon a Japanese spindle tree loaded with its brilliant vermillion fruit. There was enough seed to replace an entire forest canopy!

We then headed off through the kauri grove and some very large kohekohe which, unusually, were not showing the ravages of possums.

At Twin Oaks Drive we sampled the fruits of the olive trees which were well-laden. It was entertaining to watch the expression on each person's face as the taste hit!

Beside the sheepyards, we added avocado (*Persea americana*) to the species list. This particular tree has comparatively small leaves, perhaps indicating that the environment is not ideal for it. We then headed into One Tree Hill Domain by the sheepyards, passing by a large Lawson's cypress (*Chamaecyparis lawsoniana*) and holm oaks (*Quercus ilex*). The slopes of the volcanic cone have evidence of extensive Maori middens. Amongst these were growing some rotund dicotyledonous seedlings - another addition to the species list, bloodwood (*Baloghia inophylla*) which some members recognised from their Lord Howe Island experience.

Over the fence, we came upon a black walnut (*Juglans nigra*) with a few large fruit on the ground along with some conveniently placed chunks of scoria rock. Delicious, apart from the scoria grit!

The largest tree in the park, brown barrel (*Eucalyptus fastigata*), a Queensland kauri (*Agathis robusta*), and a few palms, including another addition to our list, *Livingstona ?australis*, were the next subjects for appreciation. Some of us grumbled when we discovered that the Family Palmae has the alternative name Arecaceae.

Having done a round trip, we then returned to the carpark and Memorial Steps for lunch. Most of us had brought our lunch, but those in the know (Mike, our leader, Ewen, our President, and Gordon, our farmer) gorged themselves on hot dogs and chips from the kiosk.

After lunch, we ambled towards One Tree Hill Domain, noting the grove of olive trees which Sir John Logan Campbell planted in the 1860's in an attempt to establish an oil industry. The trees were of poor quality and the venture failed. We can attest to the fact that these trees have large quantities of very small black fruits which taste indescribably horrible.

We also looked at some bare trees of heaven (*Ailanthus altissima*) grouped together in an isolated stand.

In One Tree Hill Domain, we came across some interesting and beautiful conifers (bunya pine *Araucaria bidwillii*, Norway spruce *Picea abies*, Japanese red pine *Pinus densiflora*) and the camphor tree (*Cinnamomum camphora*). Skirting around the main crater on the way back to the car park, we observed more olive trees that were fruiting prolifically.

For some of us, the trip was completed by a visit to the top of One Tree Hill to check on the wounded pine tree and to take in the fabulous views on this clear and sunny winter's day. We gazed out over the parkland musing at Sir John Logan Campbell's foresight and generosity. It is truly difficult to

comprehend such magnanimity in these days when our community leaders sell off the public assets provided for us by our predecessors and raise loans so that future generations will pick up the tab for new facilities we use today. Where have the values of the old days gone? Fortunately, Sir John's legacy to future generations is safe in the hands of a trust - not a public agency!

Identifying *Gahnia setifolia* and *G. xanthocarpa*

R. O. Gardner

Except in trampers' lore these two large cutty-grasses have never been regarded as other than distinct taxa. But perhaps because they dangle their diagnostic nuts in suggestive and persistent fashion, their numerous vegetative differences (as noted below) have mostly been overlooked.

Both species do well on clay, in the open or in light forest. *G. setifolia* can be abundant on well-drained sandy or volcanic soils, while *G. xanthocarpa* occurs mainly in wetter places, such as kahikatea forest and the edges of upland bogs. In northern New Zealand *G. xanthocarpa* is to be looked for wherever one finds *Astelia grandis* (P. J. de Lange *pers. comm.*) - this works for the three low-altitude Auckland sites I know it at (Moire Park in Massey East, Browns Bay, and Totara Park, Manurewa). Other field tips are that *G. xanthocarpa*, but not *G. setifolia*, is readily eaten by cattle; also that while the young fruiting heads of both can be infected with a smut fungus, this seems to occur much more frequently in *G. setifolia*.

G. setifolia
Leaf sheaths rather stiff, persisting more or less entire, the mature leaves detaching with a pull, breaking at the decayed base of the sheath; outer (abaxial) surface of sheath obscurely longitudinally ridged, rather dull, finely papillose (smooth to fingers, lips and tongue, the papillae not obvious at x 10).
Leaf blades comparatively tough, abaxially darkish green and only somewhat glossy by reason of a thin cover of wax, to c. 2.3 cm wide; in distal half of blade the hyaline marginal thickening comparatively thick, subtriangular, toothed along each side of its outer face; midway along blade the adaxial surface grooved to almost half blade depth, the sides of the groove papillose and with larger teeth on their outer angles, these projections visible at x 10, surface rough to the touch. Culms to c. 4 mm diam. just below panicle; spikelets reddish brown (in fruit becoming darker than those of *G. xanthocarpa*), the 3 innermost glumes around nut us. with a short broad mucro, occ. subrounded; ripe nuts reddish brown, 3.5-4(-4.5) mm long.

G. xanthocarpa
Leaf sheaths comparatively flexible, persisting as subfibrous shredding strips, the mature leaves very difficult to detach; outer (abaxial) surface of sheath closely longitudinally ridged, dull and soft from an obvious (x 10) cover of elongate papillae.
Leaf blades mid-green and glossy, lacking wax, to c. 2.7 cm wide; marginal hyaline thickening comparatively weak and lenticular throughout, with one row of teeth on its outer edge; midway along blade the adaxial surface with shallow grooves, these with obscure (x 25) papillae and without larger teeth, the surface smooth to the touch.
Culms to c. 6 mm diam. just below panicle; spikelets comparatively pale reddish brown, the 3 innermost glumes around nut with a comparatively narrow mucro us. more than 0.25 mm long; ripe nuts black, 5-6 mm long.

Figure (opposite): *Gahnia*, transverse sections of leaf blade (midway) and sheath. Sclerenchyma dark; red-brown (suberized?) tissue striated; ground tissue stippled; vascular bundles vb; air spaces blank. x 100.
G. setifolia. Adaxial surface of blade strongly grooved, papillate and toothed. Abaxial surface of sheath weakly papillate. Based on *ROG #7595.*
G. xanthocarpa. Adaxial surface of blade weakly grooved, almost smooth. Abaxial surface of sheath with dense elongate papillae. *ROG #7593.*