

Auckland Botanic Gardens and Totara Park

Mike Wilcox and Steve Benham

These two back-to-back field trips on 18th October 1997 were successful and enjoyable, despite heavy rain at the start, which fortunately cleared for the rest of the day. Our group numbered 20 people, and Steve Benham and Brent Torrens were the leaders for the first part - a tour of native plants at the Auckland Regional Botanic Gardens.

After a welcome cup of tea and cakes, viewing displays of divaricating shrubs, and an introduction in the library, we ventured out in two groups, looking alternately at the native shrubberies and the conservation work in the nursery and greenhouses. Brent Torrens pointed out an amazing collection of native trees and shrubs, ranging from coastal and offshore island endemics, to alpines. Some of the species to catch the eye were Chatham Islands nikau (*Rhopalostylis sapida*) with stout, whitish leaf stalks; Poor Knights lacebark (*Hoheria populnea*) with strikingly thicker leaves than the normal mainland form; *Coprosma virescens*, a most attractive small-leaved coprosma with yellow-orange bark, and becoming a favourite in Auckland for landscaping; *Lepidium naufragorum*, a rare herb found only on the Open Bay Islands of the West Coast of the South Island, but thriving in the Gardens; the two mossy mat plants, *Scleranthus uniflorus* and *S. biflorus* forming very attractive subjects in the rock garden; and *Isotoma fluviatilis* with dainty blue flowers.

Steve Benham showed the group various conservation projects on rare native plants, involving exploration, collection, and propagation at the Gardens. Some of the plants viewed were the mystery Urewera plant collected by Willie Shaw of Rotorua some years ago, tag-named "Exit" and believed to be a member of the Cunoniaceae; a collection of *Peperomia*, including two accessions of "purple vein", collected from near Ahipara and just north of Taupo Bay; *Eleocharis neozelandica* from Te Pahi; *Carex uncifolia* from West Dome, Southland; *Carex inopinata* from Kowhai Point Scenic Reserve, in the Wairau Valley; the vulnerable yellow-flowered shrub, *Carmichaelia williamsii*, sampled from the Aldermen Islands; and *Pittosporum fairchildii* from the Three Kings Islands.

Pride of place in the Garden's native plant conservation work at present are the projects on *Lepidium* (Brassicaceae) and *Clianthus* (Fabaceae). Ten Auckland schools are each growing a population of *Lepidium oleraceum* (Cook's scurvy grass) under the 'Adopt a Threatened Plant Project'. They will harvest and return the seed to the Botanic Garden seed storage facility in readiness for future conservation work. The kowhai ngutukaka (*Clianthus puniceus*) project involves the genotype from Moturemu Island. This population was originally brought to botanists' attention by Frank Hudson who had known about it since the 1950's. The Gardens have undertaken to propagate and return plants to DoC as part of their Threatened Plant Recovery work.

Mike Wilcox led the afternoon's excursion to Totara Park, one of the Manurewa reserves managed by the Manukau City Council. It is a farm park, with forest patches and fields, covering an area of 122 hectares. The main forest area comprises two forest types. On the drier slopes, there is an excellent variety of conifers, including matai (*Prumnopitys taxifolia*), miro (*Prumnopitys ferruginea*), kahikatea (*Dacrycarpus dacrydioides*), tanekaha (*Phyllocladus trichomanoides*), totara (*Podocarpus totara*), and rarely, kauri (*Agathis australis*). The podocarps are mainly pole-sized, in dense stands. The second main type is a broadleaved forest with a dense canopy, dominated by taraire (*Beilschmiedia tarairi*), with some large puriri (*Vitex lucens*), scattered rewarewa (*Knightia excelsa*), and in the damper gullies, pukatea (*Laurelia novae-zelandiae*). The only northern rata (*Metrosideros robusta*) seen was a dead one. The subcanopy trees are more diverse, with tawa (*Beilschmiedia tawa*), pigeonwood (*Hedycarya arborea*), titoki (*Alectryon excelsus*), kohekohe (*Dysoxylum spectabile*), mamangi (*Coprosma arborea*), white maire (*Nestegis lanceolata*), and lancewood (*Pseudopanax crassifolius*). Generally the forest is rather open, but with abundant regenerating nikau palms (*Rhopalostylis sapida*). Tree ferns are particularly abundant on the moist southern slopes, the dominant species being silver fern (*Cyathea dealbata*), with lesser numbers of

mamaku (*Cyathea medullaris*), slender tree fern (*C. cunninghamii*), and common ponga (*Dicksonia squarrosa*).

Our principal objectives were to add to the previous species list, to "sort out" the divaricating shrubs, and to note epiphytes and their host plants.

The first new discovery was *Pterostylis alobula*, brought to our attention by George Corbett, propagator at the Botanic Gardens, and verified by Maureen Young. Nearby were some good patches of the rhizomatous ground fern *Lastreopsis microsora*, also new, though much less common here than *L. glabella*. The third addition was *Alseuosmia macrophylla*, though only one plant was seen.

The six divaricating shrub species observed were *Melicope simplex* (in flower), *Melicytus micranthus*, *Carpodetus serratus*, *Coprosma spathulata* (actually fastigiate, rather than divaricating), *Pennantia corymbosa*, and *Streblus heterophyllus*. Many people asked how you tell *Coprosma spathulata* from juvenile *C. arborea*. For identifying coprosmas it is hard to beat the illustrated keys by G. Marie Taylor (*Tuatara* 9(1-2)), 1961, which states:

Coprosma arborea (juvenile): pubescence of young stems evenly distributed and pigmentation uniformly dark, bark of older stems brownish, lower surface of leaf has a clear pattern of small veins between the main secondaries extending close to the midrib.

Coprosma spathulata: pubescence of young stems occurs in a longitudinal tract below the stipule and the greenish colour of young leaf bases and stipules contrasts with darker pigmentation above and below, bark of older stems whitish, lower surface of leaf has an obscure pattern of small veins between the main secondaries, fading out altogether towards the midrib.

It is thus all in the veinlets - *C. arborea* has lots of them, clearly visible, while *C. spathulata* has few of them.

Murray Baker proved most observant regarding epiphytes and their host plants, and we were able to compile the following list:

Asplenium polyodon: on silver fern trunks.

Blechnum filiforme: commonly climbing up nikau stems.

Collospermum hastatum: on taraire branches.

Earina mucronata: on taraire branches, high up.

Hymenophyllum flabellatum: on silver fern trunks.

Phymatosorus pustulatus: on totara and puriri.

Phymatosorus scandens: the commonest climbing fern here, on nikau, silver fern, and tanekaha.

Pyrrosia eleagnifolia: on totara and tanekaha.

Trichomanes venosum: on silver fern trunks.



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