

from those areas, and also, why *L. filiforme* should be absent from gumland only a short way south, e.g. at Ahipara and at Maitaitai near Dargaville. Growth trials with different soils might be helpful, but unfortunately for those who want their answers in a hurry these plants are very reluctant transplantees. As a more

than usually open-ended speculation it can be noted that *S. tendo* is endemic and is essentially a plant of dry open places in kauri forest, whereas *S. brevifolius* and *L. filiforme* occur in Australia also, where they tend to grow in swamps or the wetter types of heathland.

Reference

Enright, N.J. 1989: Heathland vegetation of the Spirits Bay Area, far northern New Zealand. *New Zealand Journal of Ecology* 12: 63-75.

Four neglected Waitemata and Manukau Harbour frontages

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Introduction

These notes on some fairly undistinguished pieces of vegetation are intended to justify rather more than just a few hours' unfocussed seaside rambling (though always with the hope that *Trilepidea adamsii* lay round the next headland). Of course, if authentic local material of a native plant is needed for any particular purpose, one cannot be too fussy about its associates. The "neglected" is not completely true either, since parts of these places have tracks and restoration-plantings.

The frontages' locations are shown in Fig. 1. Grid references given below in the headings refer to the NZMS 260 R11 "Auckland" sheet and mark approximately their central points

Saunders Place. This is "Waitemata Sandstone" terrain, and the cliff edges here carry numerous large old pohutukawa (*Metrosideros excelsa*), and a few less impressive kanuka (*Kunzea ericoides*) and kowhai (*Sophora chathamica*).



Fig. 1. Location of the four frontages.



Fig. 2. Large mahoe tree, Whau River (frontage 1A). Photo: R.O. Gardner, 10 April 2009.

Notes

1. Whau River-Rosebank Road peninsula. Four "subfrontages", A-D.

A (grid ref. 593786). This band of coastal native scrub is broken by weedy younger growths and restoration plantings. Much of it is part of the Kurt Bremer Walkway.

Its northern end is the point of land on which the West End Rowing Club is situated, at the end of

The change to a younger geology immediately southwards is striking: the pohutukawa (with *Rytidosperma unarede* their the only noteworthy associated sp.) give way to slumped scrubby ground whose sticky white clay supports patches of low scrub, of mapou (*Myrsine australis*), mamaku (*Cyathea medullaris*), *Coprosma lucida*, *Leucopogon fasciculatus*, and *Phormium tenax*, among considerable areas of either *Gahnia lacera* or *Gleichenia dicarpa*. The water's edge is fringed by *Apodasmia similis*.

Most of the remainder of this frontage, back south to the end of Charann Place, is dominated by large old trees of *Pinus radiata*, *P. pinaster* and *Cupressus macrocarpa*. But it also has groves of karaka (*Corynocarpus laevigatus*) and an abundance of mapou and mamaku. None of its trees seem to be very old, except perhaps for one mahoe (*Melicytus ramiflorus*), which raises half a dozen trunks from a 1.5 m diameter base (Fig. 2). The single rewarewa (*Knightia excelsa*) here is c. 15 m tall and 40 cm dbh.

Under the maritime pines c. 200 m north of the end of Charann Place there is a fine specimen of *Coprosma areolata*, recognizable at a distance by its smooth, reddish brown trunk. At c. 7 m tall and 15 cm dbh this must be one of the largest of its kind in the Auckland region. I had previously seen the species across on the other side of the peninsula, among the factory-confined trees that survive from the bush on Dr Pollen's land (Gardner 1988), and a good amount of it is also to be found in coastal scrub further towards the harbour (B, C & D below).

The most plentiful native ground-cover plant under the mapou etc. is hookgrass (*Uncinia uncinata*). Also present in fair amount are *Carex lambertiana*, *Gahnia setifolia* and *G. lacera*. One small colony of *Carex ochrosaccus* was seen, and right on the shoreline *Carex flagellifera* is plentiful.

I have not been able to relocate *Ranunculus acaulis* here (Gardner 1995) and hope I did not mistake a small *Apium prostratum* for it. Presumably *R. acaulis* still persists out on Pollen Island (Cameron 1990). More clear-cut is the continued presence of silver peppermint (*Eucalyptus tenuiramis*) at the end of Charann Place, the several older trees in the shoreline scrub here having produced a scatter of younger plants close by. This Tasmanian species has smooth, grey- and yellow-patched "gum" bark, and so resembles its more commonly planted relative, *E. pulchella* (e.g., as seen at Waikumete Cemetery).

B (grid ref. 585808). This vegetation is located at the eastern edge of the Whau River mouth, just landward of the Northwestern Motorway, along the foot of the hill on which the Avondale Speedway sits. Most of the slope up towards the speedway has been dumped on and carries scrub of the usual exotics-dominated kind, but native plants persist close to the shore on a narrow terrace a metre or so above the coastal mud and mangrove. Most of its larger native trees are mapou, some of which reach c. 7 m tall and 15 cm dbh. Old-looking trees of *Leucopogon fasciculatus* are quite frequent on the terrace's seaward edge, and one outward-leaning, big manuka was seen too. Kowhai seems to be present only as smallish individuals. The most notable feature is the abundance of young *Coprosma areolata* in the understorey; the parent trees however were not

sighted.

A few tens of metres out among the mangrove and salt-marsh there are areas of low coastal scrub (*Plagianthus divaricatus* and *Austrostipa stipoides*). Coastal tree daisy (*Olearia solandri*) is relatively abundant, with some being almost 3 m tall. A single similar-sized ngaio (*Myoporum laetum*) was seen, presumably a natural occurrence.

C (grid ref. 587809). Motorists city-bound on the Northwestern Motorway, as they pass from the Whau Bridge onto the extreme north-western tip of the Avondale peninsula, probably just notice that the latter ground has a great stand of *Arundo donax* among other tall weeds. But in fact the seaward edge of this ground has a fair number of natives, mainly mapou but also manuka, kowhai, *Coprosma areolata* and coastal tree-daisy. The dominant ground-layer plant at the coastal edge of this shrubbery is *Baumea juncea*.

D (grid ref. 593803). Similarly, this broader and longer stretch of motorway border probably only gets a motorist's attention when PD gangs are at work, cutting down coprosmas to plant hebes and doing other inappropriate things no doubt. But on the (locally, midden-laden) slopes down to the mangrove there is still a fairly intact native scrub cover, mainly of large old trees of *Coprosma macrocarpa* (to c. 8 m tall, 30 cm basal diam.), with groups of karaka of slightly larger size. There are however no very old trees here.

2. Pt Chevalier peninsula, western side (grid ref. 617803).

Most of this frontage is cliffed "Waitemata Sandstone", and carries a good number of large pohutukawa. Associated native spp. include *Astelia banksii*, *Gahnia lacera* and *Collospermum hastatum*. There are also a few groups of plume grass (*Dichelachne crinita*), mostly on shallow crumbly soil up on cliff ledges. Numerous weeds spill down from the house-sections above; in particular juveniles *Phoenix canariensis* are beginning to make their presence felt. Around the bases of some of the pohutukawas, accumulations of fine organic material (completely dry in summer) have extensive drifts of freesias (*Freesia refracta*).

The southern end of this frontage consists of the very tip of the Oakley Creek basalt flow. Except for patches of marsh ribbonwood/*Austrostipa stipoides* there is native scrub on its very low rocky mangrove-encircled islets. Peter de Lange found *Carex litorosa* in this general vicinity some years ago, but neither of us have been able to relocate it.

Immediately to the north of the basalt is the low ground of Eric Armishaw Park. Much of it, mown grass with plantings, seems to have been developed on fill,

but inland on its southwestern side there is a large area of very low, peaty, natural ground. This has swamp and salt-marsh, with a dense 1.5 m tall fringe of marsh ribbonwood where this natural ground joins the mown grass. At one place, in a band a metre or so wide between the grass and the *Carex divisa-Atriplex prostrata* to seaward, there was until recently a several metres-long colony of *Chenopodium glaucum*. As seen in October 2009 all the grass-saltmarsh junction here had been tidied with herbicide. But perhaps *C. glaucum* will rise again from seed.

Immediately north of Eric Armishaw Park, for c. 150 m until the sandstone is reached, the frontage is low ground formed in Plio-Pleistocene alluvium. It carries a nearly continuous band of scrub for up to 20 m or so in from the shore. Its composition has been modified by recent plantings, but among the true natives here (and honorary ones like *Ulex europaeus* and *Acacia verticillata*) there are a few individuals of kanuka (to c. 20 cm dbh), manuka and prickly mingimingi (*Leptocophylla juniperina*). Karamu (*Coprosma robusta*) is common but *C. macrocarpa* subsp. *minor* appears to be lacking, as is tutu (*Coriaria arborea*). One plant of *Pomaderris amoena* was seen. The most plentiful native here is bracken (*Pteridium esculentum*).

3. Cox's Creek (grid ref. 646819).

On the higher side (West End Road-Jervois Road) of this inlet, along its estuarine edge, the native aspect to the scrub is given mainly by mapou, but there are a few large pohutukawa trees too. On steep banks right at the shore, under pines and mapou, freesias are abundant. Perhaps the oddest find, above the top of the tidal portion of the inlet below Hector St, was a single colony of *Gahnia pauciflora*.

Near the southern end of the main inlet, close to Richmond Road, a great deal of street gravel has washed in over the years, and this has formed low levees in the mangrove where the channel abruptly changes its direction northwards (g.r. 647818). Tall fescue (*Schedonorus phoenix*) is the main colonizer of these levees along with bushes of *Coprosma repens* and karo (*Pittosporum crassifolium*), but there is also

a single young-adult tree, and some juveniles, of Norfolk Island hibiscus tree (*Lagunaria patersonii*).

4. Favona (grid ref. 713713).

Situated on the southern side of the Manukau Harbour between the mouths of Tarata and Harania Creeks, this 2 km long frontage consists of low cliffs in silty Plio-Pleistocene alluvium. The pale subsoil has a capping of brown crumbly volcanic ash soil.

Until its recent industrialization the ground inland here was used for market-gardening and it is entirely without native bush or scrub; there is not even a single totara (*Podocarpus totara*), karaka, kanuka or kowhai. Continuing clearances, fill-dumping and weed invasion have all greatly compromised the quality of the cliff vegetation itself.

The eastern third or so of the frontage has scattered large trees among weeds of all kinds, and is of no interest. Here and there along the other two-thirds there are dense young cliff-top stands of shining privet (*Ligustrum lucidum*) and although nothing else grows in these stands they have protected to some degree the cliffs below. In the best of such places, above the drop of a couple of metres to the mangrove and mud (no fringing *Apodasmia*, etc) there may be a narrow band of grasses (*Microlaena stipoides*, *Rytidosperma unarede* and *Dichelachne crinata*). Less common are *Microsorium pustulatum*, *Pteris tremula*, juvenile *Cyathea medullaris*, and *Muehlenbeckia complexa*. Also, there are few fairly small individuals of karamu and karo. The largest karo tree I saw was only c. 6 m tall and 15 cm dbh. Still, since it bore ripe fruit of only c. 2.5 cm diameter, it might a genuine native, or at least a naturalization from an old market-garden hedge – unlike the karo (planted and wild) directly opposite at Pike's Point, which is likely to be of offshore islands origin, since its fruits are nearly twice that size.

Two South African species infest the native grasses' cliff-edge habitat: veldt grass (*Ehrharta erecta*), which I regard as Auckland's Worst Weed Ever, and the prettier but no doubt potentially troublesome *Freesia (Anomatheca) laxa* (Iridaceae).

References

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- Gardner, R. O. 1988: Rosebank Road Bush, Avondale. *Auckland Botanical Society Journal* 43: 60-62.
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