

A NOTE ON THE WET-LAND PLANTS OF THE KAKAMATUA ESTUARY

E.D. Hatch

I am indebted to Mr Alan Esler and Mr Anthony Wright for help with the weeds and grasses.

An asterisk * indicates an adventive species.

I have no idea of the original course of the Kakamatua Stream into the estuary, but the building of Roe's Cornwallis Sawmill in the 1860's, the formation of the holding dam and the tramline across the bay to the wharf, created two artificial swamps, one at the mouth of the overflow-tunnel, the other between the Cornwallis ridge and the tramway embankment.

The Puponga Peninsula forms a barrier across the Manukau Harbour and deflects much flotsam, including seeds and plant portions, into the estuary. Much of this debris is swept out to sea from the mouth of the Waikato River and is brought up the harbour on the incoming tide. In addition, the prevailing south-westerly winds blow seeds across from the lower Waikato, and many of these also finish up along the shores of the estuary.

The area may be conveniently divided into four sections -

1: the tunnel swamp - basic cover Paspalum paspalodes*, Eleocharis acuta, Carex virgata and Lotus pedunculatus*. There is a considerable colony of Carex lambertiana round the shadowed tunnel-mouth, and along the seaward bank Phormium tenax, gorse*, Scirpus fluviatilis (if it isn't medianus!), Cordyline australis and Cortaderia jubata* form a dense barrier, among which Calystegia sepium* and C. tuguriorum scramble.

2: the embankment swamp - has the same basic cover as (1), except in the late summer when it is largely taken over by Scirpus fluviatilis. At the southern or seaward end is a large area of Baumea articulata, with some B. tenax, Eleocharis sphacelata and Scirpus lacustris, fringed by Baumea juncea which extends right into the sand.

3: a small stream running through the site of the old mill - supports Apium nodiflorum*, Bidens frondosa*, Galium palustre*, Lythrum flexuosum*, Mimulus moschatus*, Polygonum hydropiper*, Ranunculus rivularis and Zantedeschia aethiopica*.

4: the western or tidal edge of the tramway embankment - has a basic cover of Cynodon dactylis* and a normal wet-sand flora with some wash-ashore Waikato species, including Alnus glutinosa*, Alisma plantago-aquatica* and Lycopus europaeus*. The Alisma which I recorded in the ABS News-sheet 7 January 1979, could not be expected to survive in such an environment, and in fact it did not, but I took one of the 4 plants home and set it up in the fish pond where it still flourishes. I have not attempted to list all the plants which occur, many of them Composite weeds - that would take another page, but the main species are -

Agropogon littoralis*, Apium australe and A. filiforme, Atriplex hastata*, Calystegia soldanella, Carex pumila, Chenopodium pumilio*, Juneus maritimus var. australiensis, Cotula coronopifolia, Lagurus ovatus*, Leptocarpus similis, Parapholis incurva*, Ranunculus acaulis, Salicornia australis, Samolus repens, Scirpus cernuus and S. nodosus, Selliera radicans, Tetragonia trigyna and Triglochin striatum.

In addition to the above there is, in a valley on the west side of the estuary, a swamp composed almost entirely of Baumea rubiginosa (lax panicle, seeds smooth, yellow), with a scattering of B. teretifolia (compact panicle, seeds corrugated, grey) and B. tenax, some raupo and the millet grass Isachne australis.

At first glance these swamps buried in the bush are an anomaly (there are several on Laingholm), but it must be remembered that one hundred years ago the area was in the open under grass, and that the scrub has come in since, and crowded but not subdued the swamp.

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Digression - Bidens frondosa* mentioned above, has temporarily colonised the drought-exposed mud flats of the lower Nihotupu Dam, along with the ubiquitous Aster subulatus*.

"STEWART ISLAND PLANTS" by Hugh D. Wilson

Field Guide Publications. 1982 528pp. \$17.25

Reviewed by R.O. Gardner

This book is the second of Hugh Wilson's integrated-and-illustrated regional floras, again a tour-de-force of field work and botanical knowledge most artistically and effectively presented.

Partly because of Pleistocene glaciation Stewart Island has only a moderate-sized native vascular flora of 580 species, and this conveniently has allowed the inclusion of all the island's wild adventives (185 species) and an ecologically-useful selection of bryophytes, lichens, fungi and seaweeds too.

Two non-technical keys lead to the plants arranged by taxonomic affinity and habitat (we are warned to expect many "temporary wetland" species!). Latin names are translated, which aids the memory and suggests some curiosities and armchair problems besides. (One also wonders about Maori names).

The illustrations and brief descriptions are excellent - nicely balanced between detail and appearance they get the plants to a t.; the habitat phrases are very good too. With this book in hand misidentification of a Stewart Island plant, that is, about a quarter of our native vascular flora, is hardly possible.

The latest in taxonomic "news" contained here are some thirty or so refined groupings and unfamiliar names - these are of interest mostly in the south but Aucklanders can note Coprosma grandifolia for C. australis, Galium trilobum for G. tenuicaule and the treatment of Nertera species and the Blechnum procerum group. And the illustrations of Hydrocotyle will be useful throughout the country.

In their several years of field study Wilson and his companions must have become very well acquainted with Stewart Island's diversity of natural habitats and it can be doubted that significant floristic finds among the native vascular flora now remain to be made there. Precise and exclusive then this book is a substantial contribution to New Zealand biogeography. The two illustrations in the introduction, one a misty forest interior the other a clear island landscape, and not forgetting to mention the photograph of bonny Hugh himself, complete the picture of a wilderness civilised.