

Acknowledgments

A belated thank you to Colin Webb who determined the original WAIK collections of this species - and many others - when I was assistant curator of that herbarium. My thanks to Ewen Cameron and Rhys Gardner who commented on an early draft of this article and suggested that I should publish it.

Reference

Webb, C. J.; Sykes, W. R.; Garnock-Jones, P. J. 1988: *Flora of New Zealand, Vol. IV*. Botany Division, Department of Scientific and Industrial Research, Christchurch.

Te Henga (Bethells Beach) - Saturday 13 May 1995

Mike Wilcox

In glorious fine weather, we gathered expectantly at the Bethells Beach carpark at 10 am for a day of botanising and seashore study. Ewen Cameron led us off across the blacksand dunes, pointing out the three important sand binding plants, spinifex grass (*Spinifex sericeus*), marram grass (*Ammophila arenaria*), and pingao (*Desmoschoenus spiralis*), the latter here exceptionally robust and vigorous, and very much the bastion on the exposed windward edge of the dunes. There were also frequent shrubs of *Cassinia leptophylla*. The introduced pampas grass (*Cortaderia selloana*) has taken over much of the hind-dune area at Bethells.

As a curtain raiser, we examined some rocky outlets and headlands (privately owned) just north of the main beach, which provide unusually close-to-shore breeding grounds for hundreds of grey-faced petrels, and also flesh-footed shearwaters, sooty shearwaters, and diving petrels. We scaled one of the headlands through a forest of pohutukawa (*Metrosideros excelsa*), houpara (*Pseudopanax lessonii*), and Anawhata kowhai (*Sophora microphylla* var. *fulvida*), together with occasional tawapou (*Pouteria costata*), and supporting an understorey of kawakawa (*Macropiper excelsum*), *Coprosma crassifolia*, a few *Pimelea urvilleana*, abundant flax (*Phormium tenax*), and several ferns including *Polystichum richardii*, *Doodia media*, *Asplenium oblongifolium*, *Pteris saxatilis*, and *Adiantum cunninghamii*. Some other notable finds were *Mentha cunninghamii*, *Zoysia* sp., a *Hydrocotyle* species and *Dichondra repens*. The most talked-about plant of the morning was probably *Tetragonia trigyna* (one of the edible native spinaches), growing abundantly on the rocky banks.

Low tide was due at 2 pm, and John Morton took over for the rest of the day, leading the 40-strong group on an ecological ramble around the conglomerate platforms, channels and caves between Bethells and O'Neill's Beach. The weather and tide were perfect for a clear look at the zonation pattern on this very exposed cold water coast. Here, brown seaweeds are not conspicuous in number of species, but make up for that in the abundance and impressive size of the bull kelp (*Durvillea antarctica*). There are only occasional clumps of *Carpophyllum maschalocarpum*, *Landsburgia quercifolia*, some *Scythothamnus australis*, and in places, *Lessonia variegata*, which was an exciting find, as according to John Morton, it may be a comparatively recent discovery here.

The higher tidal pools of the rock platforms supported several green algae, notably *Ulva* and *Chaetophora*. But the day really belonged to the red algae, on this coast so conspicuous in variety and dominance on the mid and lower tidal zones. Prominent species were *Gigartina alveata*, an olive-green tufted seaweed covering large areas in the middle zones, followed below by *Pachymenia lusoria*, *Gigartina circumcincta*, *Gigartina marginifera*, *Osmundaria colensoi*, and *Champia novaezelandiae*. A few clumps of *Porphyra columbina* were observed limply attached to rocks in the upper tidal channels.

Prominent sessile animals occurring in zones were the green mussel (*Perna canaliculus*), and above in succession, the sand tube-worm (*Sabellaria kauparensis*), the small black mussel (*Modiolus neozelandicus*) and barnacles of the genus *Chamaesipho*. Spectacular clusters of the large starfish,