	P. Is.	Sth. G.	Hik. S.	H. Craw.	Man.
R. racemosum					*
Spirodela punctata			*		
Sporobolus africanus	*	*		*	*

American fireweed (*Erechtites hieraciifolia* (L.) DC.) in the South Auckland area

P. J. de Lange

Introduction

Webb (*et al.*, 1988) recorded American fireweed (*Erechtites hierciifolia*) from the Whangamarino, Rotorua and scattered localities in the Bay of Plenty. At that time the species was considered very local. In 1984 material of an unidentified fireweed was collected by R. Irving from the fringes of the Kopouatai Peat Dome, Hauraki Plains, and deposited in the University of Waikato Herbarium (WAIK!). This specimen was determined as *Senecio biserratus* by Irving, although it was clearly not that species. Further specimens of the same taxon were later collected from the Whangamarino Wetlands near Te Kauwhata (WAIK!) and this material was eventually forwarded to CHR, where it was identified as American fireweed by Dr C. J. Webb in 1987. American fireweed superficially resembles a large *Sonchus*, although the ± glabrous lime green foliage, absence of milky sap, and large, long capitula, easily distinguish this species from *Sonchus* and other erechtitoid senecios (Webb *et al.*, 1988).

South Auckland Distribution and Date of Establishment

During January-April 1988 while carrying out field work within the Hauraki Plains peat bogs I noted American fireweed had now become well established in drains and recently disturbed peat around the Kopouatai and Torehape peat bogs. Later in the same year plants were also located on shallow peat near Kawhia in a site where they had not been seen in 1987. Further plants were also seen but not collected in January 1989, from the margins of the Te Mimiha, Orini, and Hoe O Tainui peat bogs of the northern Hamilton Basin. Later in April of the same year I discovered this species in some abundance along the margin of the Kaituna Peat Bog drain skirting Bell Road, Te Puke (WAIK!) and observed that this species was also locally established in the *Leptocarpus* dominated saltmarshes fringing the upper reaches of the Tauranga Harbour. In 1990 plants were collected from open willow car [1] on Motukauere Island, Lake Whangape west of the Waikato River within the Huntly Basin (AK 197790, WAIK!). In January 1991 the first plants were found within Hamilton City where they were collected from disturbed peat bordering Lake Rotokaeo (Forest Lake) (AK 207183, CHR!). From these collections and observations it is now apparent that American fireweed has become well established in the South Auckland area, particularly in areas of recently disturbed peat and associated shrubland. From these observations it appears that the current northern limit of this species is the Torehape peat bog while American fireweed reaches its southern limit at Kawhia. I wonder how long it will take to spread into Auckland and Northland?

Weed Potential

American fireweed, while a large herbaceous plant commonly exceeding 0.8 m in height, is not a significant weed of the wetland situations it favours. Plants are strictly annual and appear incapable of establishing within wetlands maintaining significant cover of indigenous species. This behaviour sets it apart from its close relative Brazilian fireweed (*Erechtites valerianifolia*) which is now well established in many indigenous wetland and shrubland sites from a line north of Auckland and the Coromandel Peninsula.

[1] A 'car' is a Northern hemisphere botanical description of an association dominated by deciduous palustrine trees.

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 kaiparensis*), the small black mussel (*Modiolus neozelanicus*) and barnacles of the genus *Chamaesipho*. Spectacular clusters of the large starfish,