

A PRICKLY NUISANCE WEED INVADING THE SOUTH

Onehunga weed (*Soliva sessilis*) - Peter Johnson, Landcare Research, Dunedin

Introduction

Onehunga weed (*Soliva sessilis*; Asteraceae) is a South American plant, notorious for its painful foot-piercing spiny fruits, and very common as a weed in lawns in northern N.Z. e.g., around Auckland (hence the name 'Onehunga weed'). It is appearing at an increasing number of sites in Otago, Southland, and south Westland. Being still in the early stages of invasion in the south I believe we have an opportunity now to initiate control measures and attempt to limit its potential impacts.

Description

Prostrate annual forming pale green patches 10 - 20 (-40) cm across, with feathery divided somewhat hairy leaves; flowers and fruits sessile and inconspicuous, but with small dry fruits having a straight, upward-pointing spine. The identity of *S. sessilis*, and of another weedy species *S. anthemifolia* is readily confirmed by prodding for the feel of spines with a finger or walking across a lawn with bare feet.

“Look-alike” plants

When hunting for Onehunga weed you come to realise that several other weeds of the same well-trodden habitats have similar prostrate habit, softly pinnatifid pale green foliage, and generally sessile infructescences. Some of them compare with *Soliva* as follows: Parsley piert, *Aphanes arvensis*: shorter petioles, broader leaflets; Soldier's button, *Cotula australis*: more wispy, very elongated peduncle; Twin cress, *Coronopus didymus*: darker green, often larger, smelly foliage. Also similar are seedlings of various daisies such as yarrow (*Achillea*), chamomiles and mayweeds (*Anthemis*, *Matricaria*).

Significance of *Soliva*

Johnson & Lovell (1980, *N.Z. Journal of Botany* 18: 487-493) note that “The major significance of these species in New Zealand lies in their very successful invasion of areas of managed grass, such as parks, lawns, and sports pitches. They are a nuisance because they die back during summer leaving open brown areas, and also because the very sharp achenes can penetrate skin and so cause discomfort to those people using these short-turf areas.”

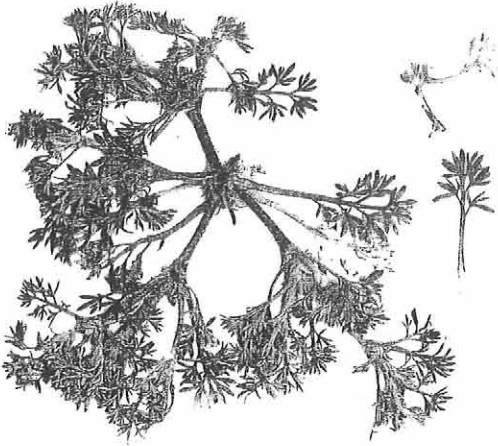
Former distribution

In 1988 the distribution of *S. sessilis* in NZ was “North I.: throughout but most common from N. of Lake Taupo. South I.: scattered localities in Nelson, Marlborough, Westland, and Canterbury, and collected once from near the Old Man Range (Otago). Lawns, playing fields and golf courses, pastures, and stony waste places.” (Webb et al. 1988, *Flora of NZ Vol. IV*,). They also comment: “Both naturalised spp. have increased since 1953 and further spread, chiefly by human dispersal, can be expected.”

The southernmost collections of *S. sessilis* currently held in the herbarium of Landcare Research at Lincoln (CHR) are the relatively early (1955) collection from Omeo Creek, foot of Old Man Range, in bare ground among scabweed; and otherwise about

10 specimens from the Christchurch area, and from Westland, the furthest south being from Franz Josef motorcamp collected in 1972.

Fig. Onehunga weed, *Soliva sessilis*, and 3 similar weeds – Peter Johnson



Onehunga weed
Soliva sessilis



parsley piert
Aphanes arvensis



soldier's button
Cotula australis



twin cress
Coronopus didymus

P.N. Johnson, Landcare Research, Dunedin, Jan 2002

Recent Appearance in southern South Island

Invercargill, Otatara: became apparent about 1999 in a lawn fronting a suburban street (Carol West, DOC, Invercargill, pers. com.).

South Westland: found in rough lawn at Haast motorcamp, March 2001.

N. Fiordland, Martins Bay: on a mown, gravelly airstrip margin where people alight from planes: about 200 plants confined within 5m-distance; these were scraped off, bagged, and buried, Dec. 2001.

Dunedin area: January 2002, found at Sawyers Bay, Hall Road, lawn verge in suburban street; Broad Bay, lawn verge by bus stop; Macandrew Bay, lawn edge behind sandy beach; University of Otago, lawn verges beside asphalt paths that carry much foot traffic; North Ground, verge of grassed public park especially where ground bared by herbicides; Dunedin Botanic Garden, various path edges; Woodhaugh; Prospect Park; Lake Waihola domain.

Where to see Onchunga weed easily in Dunedin

An easy Dunedin site to see it is where the one-way north system angles through Malcolm St., south of Albany St.: on the small grassy park between Joe Tui's greasies shop and The Captain Cook. Here circular patches of Onchunga weed are readily visible where they have colonised a circular patch of disturbed ground where a 'mature' (and now rather sickly) Metasequoia tree has recently been transplanted.

How significant is the weed potential of Onchunga weed in the south?

It is obvious that Onchunga weed can no longer be considered as a pest only in the warmer parts of New Zealand. But maybe in the cooler south it will be less vigorous, and therefore more amenable to control. It is a weed mainly of nuisance value in playing lawns, turfs, and private lawns, one which severely reduces the ability of people to use recreational turfs while not wearing shoes. Spread must be mainly on footwear and tyres so the habitats where it is first appearing in the south are not surprising: well-trodden paths abutting lawns, bus-stops, airstrips, and motorcamps. Its preference is for disturbed, trampled or partly bared ground, especially at the edge of lawns abutting gravel or asphalt paths. But it will also gradually invade the main expanses of lawns, parks, and cultivated garden beds. I am not sure whether Onchunga weed has potential as an environmental nuisance, but suspect it might invade moist turf communities, dunelands, and riverbed gravels.

Control methods

Initial control should target the preferred path-edge habitats so as to limit seed production and consequent spread. Hand removal by severing individual plants at ground level would appear to be the most immediately effective way of killing existing plants. These should be bagged (to prevent dissemination of ripe and ripening seed) and disposed of by permanent burial e.g. at a landfill site. Mowing of infected lawns should be done with an awareness of where seed-containing grass clippings are being redeposited, composted, used as mulch, or dumped. No doubt there are effective sprays, but these will not necessarily kill seeds, and indeed the use of herbicides around the margins of lawns and parks (a practice which in itself is often a lazy, unsightly, self-

defeating management method) is likely to simply increase the amount of bare habitat available for colonisation by Onehunga weed.

Control strategy

From the public places where it is presently concentrated it can be expected to spread to private gardens. I believe that there is some social onus upon Regional and District councils to initiate control of Onehunga weed on public lands under their control in order to lessen the subsequent and inevitable spread onto private lands. The issue has been brought to the attention of Dunedin City Council, DOC, Otago Regional Council, Environment Southland, and Otago University. The DCC have indicated that they will endeavour to eradicate it from Council land.

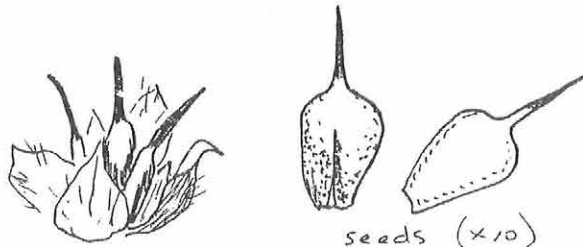
We must bear in mind that, as with all weeds, we can probably never eradicate Onehunga weed, that although we might concentrate on keeping certain sites free of it, that re-invasion can always be expected, that chemical or biological control methods are not magic solutions, that every weed needs to be managed with a knowledge of its ecology, and finally that weeding is forever!

What can Botanical Society of Otago members do?

1. Become familiar with Onehunga weed at one of the localities mentioned above.
2. Note sites of occurrence, and of equal interest, vulnerable sites which do not yet have the weed.
3. Do some weeding yourself if the infestation is small, otherwise report occurrence to some local authority.

I am happy to confirm identification of collections, to hear of additional sites of occurrence, and to receive any feedback (JohnsonP@LandcareResearch.co.nz). I shall pass records of Dunedin sites on to Dunedin City Council. Once we have a little more information, and perhaps some consensus of views, I can publicise the topic via a newspaper story.

Fig. Seeds of *Soliva sessilis*
Drawn by Peter Johnson



Trip Report

Allison Conservation Covenant and Bull Creek Reserve - Sat. 23 Feb Ralf Ohlemüller, Botany Department, University of Otago, Dunedin

February's trip led us to two of the few forest remnants on Otago's east coast. Both the Allison Conservation Covenant and the Bull Creek Reserve harbour in parts extensive stands of Southern rata (*Metrosideros umbellata*) / kamahi (*Weinmannia racemosa*). They are the northern outposts of the dominant forest type of podocarp/rata and kamahi