



## *Carmichaelia kirkii*

### Common Name(s):

climbing broom, Kirk's broom

### Current Threat Status (2012):

Threatened - Nationally Vulnerable

### Distribution:

Endemic. Eastern South Island, from the Awatere River south to Otago

### Habitat:

A plant of moderate to high fertility sites. Usually associated with grey scrub communities particularly those along riverbanks and gorges, or on poorly drained river terraces. It is often associated with totara (*Podocarpus totara* var. *totara*) forest, and has also been found in carex dominated wetlands, or within kahikatea (*Dacrycarpus dacrydioides*) dominated forest.

### Features\*:

Vine 1-3 m tall, usually climbing, scrambling or sprawling, very rarely a bushy shrub. Branches up to 40 mm diameter, ascending and spreading. Cladodes 70-420 x 1.7-3 mm, spreading, sometimes divaricate, linear, striate, terete, green to bronze-green, hairy or glabrous; leaf nodes 4-12. Leaves 1-5-foliolate, present on seedlings and adults, particularly in shaded situations, terminal leaflet larger; lamina 4.5-8 x 2.5-6 mm, obovate to broad-elliptic, fleshy, green to bronze-green, usually glabrous but sometimes sparsely hairy, apex emarginated, base cuneate; petiole 6-25 mm, green or brown-green; petiolule 0.5-0.9 mm, glabrous, light green. Leaves on cladodes reduced to scales. Stipules 0.7-1 x 0.6-0.8 mm, free, triangular. Inflorescence a 1-5-flowered raceme, cladodes bearing 1-3 racemes per node. Peduncle 2-6 mm long, glabrous or hairy, green or red. Bracts 0.5-1.2 mm long, triangular, sparsely hairy. Pedicel 2.5-4 mm long, glabrous or hairy, green or red. Bracteoles 0.5 x 0.3 mm, narrow-triangular, on or near receptacle or lower part of pedicel, green or red. Calyx 4-5 x 2 mm, campanulate, green sometimes flushed red, glabrous or hairy. Calyx lobes 1.5-2 mm, narrow-triangular, green, usually flushed red. Standard 8-9 x 8.5-12 mm, orbicular or board-obovate, patent, positioned in central part of keel, weakly keeled, margins recurved, apex emarginated, rarely mucronulate; central portion of inner surface red-purple, margins white, sometimes purple-veined; outer surface white with a darkened central part. Wings 6-8 x 2.5-3.5 mm, oblong, shorter than keel, apex obtuse; outer surface white, proximal part pale green; inner surface sometimes purple-veined. Keel 8-9 x 3-3.5 mm, apex obtuse; distal part of inner surface red-purple, proximal part white or pale green. Stamens 6-5-8.5 mm long, dorsal filaments fused for  $\frac{3}{4}$  of length, outer stamens free for 2 mm. Pistil 8.5-10 mm long, exerted well beyond stamens; style bearded on upper surface. Pods 12-18 x 4-5.8 mm, broad-elliptic, spreading, dark brown, grey-brown or yellow-brown, both valves partially dehiscent. Beak 3-6 mm long, stout, pungent-tipped. Seeds 2-3.5 x 1.7-2.5 mm, 2-5 per pod, off-white with black or dark purple mottling, broad-elliptic, reniform, oblong-reniform or rounded.

### Flowering:

November-January

### Fruiting:

January - June

### Threats:

Most *C. kirkii* populations occur on private land. The species is highly palatable and so vulnerable throughout its range of all browsing animals. Though recent surveys have discovered more populations leading to this species being one of few with a lower threat ranking in 2008 vs that in 2009, at many sites there is no recruitment. Several former populations appear to have gone extinct through excessive collection of specimens by botanists.

### \*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 13 June 2006. Description modified from Heenan (1996).

### References and further reading:

Heenan, P. B. 1996: A taxonomic revision of *Carmichaelia* (Fabaceae-Galegeae) in New Zealand. Part 2. *New Zealand Journal of Botany* 34: 157-177

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 2009 Vol. 11 No. 4 pp. 285-309

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=57](http://nzpcn.org.nz/flora_details.asp?ID=57)



**Caption:** Macraes Flat, Otago

**Photographer:** Jesse Bythell



**Caption:** Tone River

**Photographer:** Simon Moore