

# Carmichaelia hollowayi

## COMMON NAME

Holloway's broom

## SYNONYMS

None

## FAMILY

Fabaceae

## AUTHORITY

*Carmichaelia hollowayi* G.Simpson

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

## NVS CODE

CARHOL

## CHROMOSOME NUMBER

$2n = 32$

## CURRENT CONSERVATION STATUS

2012 | Threatened – Nationally Critical | Qualifiers: CD, RF, RR

## PREVIOUS CONSERVATION STATUSES

2009 | Threatened – Nationally Critical | Qualifiers: CD, RF, RR

2004 | Threatened – Nationally Critical

## BRIEF DESCRIPTION

Rare low-growing shrub with many yellowish erect leafless orange-tipped branches inhabiting limestone in the Waitaki Valley. Branches 3.5mm wide, with rounded tip. Flowers small, pea-like, white with dark purple centre, in small clusters. Fruit a long-lasting sharp-tipped dry pod containing 1-3 hard olive seeds.

## DISTRIBUTION

Endemic. South Island, where it is only known from limestone outcrops on the south bank of the Waitaki River.

## HABITAT

Limestone bluffs, outcrops, colluvium and their associated rendzina soils.



Guards Road, Kurou. Photographer: Peter Heenan



In flower. Photographer: John Barkla

## FEATURES

Dwarf, suckering broom, up to 0.5 x 1(-2) m. Branches 10-30 mm diam., stout, horizontal, spreading, cladodes virtually leafless, 50-80(-100) x 3.5 mm, erect to spreading, yellow-green, apex rounded, never sharp-tipped. Leaves when present, simple, 4.5-12.5 x 1.8-4.5 mm, obovate to oblanceolate, green. Inflorescence a (1-)2-3-flowered raceme, flowers dark purple. Standard 7-8 x 7-8 mm, broad-orbicular, erect, purple or red-purple, margins white. Wings 5.5-6.5 x 2.5-3 mm, oblong, white, purple veined, keel 5 x 3.5 mm, distally tinged purple otherwise white or purple-veined. Pods long persistent, 8-11 x 4.8-6 mm, broad elliptic, laterally compressed, valves very flat. Seeds 2.5-2.9 x 2.4-2.6 mm, reniform, 1(-2) per pod, yellow-green or green with black mottling.

## SIMILAR TAXA

*Carmichaelia hollowayi* is identified by the pod, which is conspicuously laterally compressed and by the cladode apex which is rounded rather than sharp-tipped like Waitaki forms of *C. petriei* Kirk and *C. australis* R.Br. It is one of three native brooms (the others are *C. astonii* G.Simpson and *C. glabrescens* (Petrie) Heenan) naturally confined to limestone rock and associated soils.

## FLOWERING

November - December

## FLOWER COLOURS

Violet/Purple, White

## FRUITING

January - May

## LIFE CYCLE

Seeds are possibly dispersed by wind and granivory (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Easily grown from fresh seed. Can also be grown by hardwood cuttings but these can be slow to take root. Plants will not tolerate humid conditions, and require a sunny, well drained, fertile soil.

## THREATS

There are less than 250 adult plants in the wild found in three populations. Because the species suckers, exact numbers of adult plants cannot be determined and it is likely that there are far fewer than currently believed. Although two of the three known populations occur on protected or covenanted land, the species remains at serious risk at all sites from browsing animals and from competition by tall grasses, shrubs and hawkweeds. Aside from these issues recruitment failure (in part linked to weed control) seems to be a critical problem.

## ETYMOLOGY

**carmichaelia:** After Carmichael, a botanist

## ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange 1 October 2003. Description adapted from Heenan (1995) - see also de Lange et al. (2010).

## REFERENCES AND FURTHER READING

de Lange, P.J.; Heenan, P.B.; Norton, D.A.; Rolfe, J.R.; Sawyer, J.W.D. 2010: Threatened Plants of New Zealand. Christchurch, Canterbury University Press. 471pp.

Heenan, P. B. 1995: A taxonomic revision of *Carmichaelia* (Fabaceae-Galegeae) in New Zealand (part I). *New Zealand Journal of Botany* 33: 455-475.

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

## NZPCN FACT SHEET CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Carmichaelia hollowayi* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.

<https://www.nzpcn.org.nz/flora/species/carmichaelia-hollowayi/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/carmichaelia-hollowayi/>