Carmichaelia kirkii

COMMON NAMES
Climbing broom, Kirk's broom

BIOSTATUS
Native – Endemic taxon

CURRENT CONSERVATION STATUS
2023 | Threatened – Nationally Vulnerable | Qualifiers: DPS, DPT, RF
Jump to previous conservation statuses

CATEGORY
Vascular

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

SIMPLIFIED DESCRIPTION
Sprawling or climbing nearly leafless greyish brown shrub. Twigs many, rounded, slightly grooved. Leaves few except in shaded sites or on young plants. Flowers whiteish with darker purple centre, pea-like, in small clusters. Fruit a small sharp-tipped dry pod partly splitting to release the small white mottled hard seeds.

FLOWER COLOURS
Violet/Purple, White

Mount Cass. Photographer: Melissa Hutchison, Licence: CC BY-NC.

Macraes Flat, Otago. Photographer: Jesse Bythell, Date taken: 28/04/2012, Licence: CC BY-NC.

DETAILED DESCRIPTION

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 ¾ of length, outer stamens free for 2 mm. Pistil 8.5-10 mm long, exserted 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.

SIMILAR TAXA

Carmichaelia australis R.Br., leafless clematis (Clematis afoliata). Climbing broom has mottled seeds and prominently beaked pods, which persist throughout the year. Carmichaelia australis is a shrub rather than a climber. Clematis afoliata is always leafless.

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.

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.

GENUS

Carmichaelia

FAMILY

Fabaceae

AUTHORITY

Carmichaelia kirkii Hook.f.

SYNONYMS

Carmichaelia gracilis J.B.Armstr., C. kirkii var. strigosa G.Simpson

ENDEMIC TAXON

Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

FLOWERING
November-January

FRUITING
January - June

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

PROPAGATION TECHNIQUE
Easy from seed or semi-hardwood cuttings. A beautiful lianoid shrub which is best treated as a climber, or allowed to grow up through another shrub. It does best in full sun, and though tolerant of dry conditions, grows better in moist ground. As with most Carmichaelia this species does not like humidity.

ETYMOLOGY
carmichaelia: After Carmichael, a botanist
kirkii: After Thomas Kirk (18 January 1828 - 8 March 1898), a NZ botanist and lecturer in natural sciences and regarded as a leader of botanical enquiry in NZ for over three decades. One of his most significant publications was Forest flora of NZ (1889) but he also contributed over 130 papers to the Transactions and Proceedings of the NZ Institute and other journals.

NVS CODE
CRMKIR

CHROMOSOME NUMBER
2n = 32

PREVIOUS CONSERVATION STATUSES
2017 | Threatened – Nationally Vulnerable | Qualifiers: DP, RF
2012 | Threatened – Nationally Vulnerable | Qualifiers: RF
2009 | At Risk – Declining | Qualifiers: RF
2004 | Threatened – Nationally Endangered
Jump to current conservation status

REGIONAL CONSERVATION STATUSES
Otago: 2025 | Regionally Threatened – Regionally Endangered | Qualifiers: DPS, DPT, NR, NStr, PF, RF, Sp, TL Help
The regional threat classification system leverages off the national assessments in the NZTCS, providing information relevant for the regional context. Otago conservation status information is sourced from the "Conservation Status of Indigenous Vascular Plants in Otago, 2025" Jarvie S et al. (2025) report.

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

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

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/carmichaelia-kirkii/

PDF DATE
27 May 2026