

Carmichaelia juncea

COMMON NAME

a native broom

SYNONYMS

Carmichaelia prona Kirk, *C. fieldii* Cockayne, *C. lacustris* G.Simpson, *C. nigrans* G.Simpson var. *nigrans*, *C. nigrans* var. *tenuis* G.Simpson, *C. floribunda* G.Simpson

FAMILY

Fabaceae

AUTHORITY

Carmichaelia juncea Hook.f.

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

NVS CODE

CARJUN

CHROMOSOME NUMBER

2n = 32

CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Vulnerable | Qualifiers: CD, DP, EF

PREVIOUS CONSERVATION STATUSES

2012 | Threatened – Nationally Vulnerable | Qualifiers: CD, EF, RF

2009 | Threatened – Nationally Vulnerable | Qualifiers: CD, EF, RF

2004 | Threatened – Nationally Endangered

BRIEF DESCRIPTION

Rare sprawling leafless brownish shrub inhabiting gravel flats. Twigs flattened, 1.5-2mm wide, grooved, lying flat along ground. Flowers small, pea-like, white or with purple streaks. Fruit a very small dry pod containing up to 6 very small mottled seeds and which does not split open.

DISTRIBUTION

Endemic. North and South Islands. In the North Island it was collected once in the 1840s from the Ngaruroro River, and has not been seen since. In the South Island it was formerly known from North West Nelson, Marlborough, Canterbury, Westland, Otago and Southland. It is now only known from a small area near Puponga in North West Nelson, and in scattered sites from Franz Josef Glacier south to near Haast.

HABITAT

Occurs on stable but unconsolidated river bed gravels and stony, sandy and grassy edges of lakes, where competition from other plants is limited, or in coastal shrubland and turfland on weathered conglomerate rock.



Carmichaelia juncea in full flower.

Photographer: Shannel Courtney, Licence: CC BY-NC.



Carmichaelia juncea showing growth habit.

Photographer: Shannel Courtney, Licence: CC BY-NC.

DETAILED DESCRIPTION

Prostrate, sprawling, virtually leafless, shrub forming flat dull grey-green, yellow-green to very dark green mats up to 0.2 x 1.5 m. Branches up to 0.8 m, completely flat, rarely ascending. Cladodes linear, striate, compressed, green, grey-green, yellow-green to light brown, sparsely hairy, prostrate, 55-160 x 1.5-2 mm; apex subacute. Leaf nodes 8-15. Leaves 1-3(-5)-foliolate, somewhat fleshy; upper surface mottled brown, brown-green or green; undersides green; apex emarginated or retuse, base cuneate to obtuse, lamina margin sparsely hairy or glabrous. Terminal leaflet 5.5-14 x 2-4 mm, oblong, lateral leaflets 3-5 x 1-2.5 mm, obovate. Leaves on cladodes reduced to a triangular scale < 1 mm long. Stipules free, 0.5-0.8 x 1mm, broad-triangular, initially herbaceous, drying membraceous. Inflorescence a raceme, 1(-2) per node, bearing 4-6 flowers. Peduncle 2-4 mm long, hairy, green. Pedicel 1-1.5 mm, hairy, pale green flushed with red. Calyx 1.5 x 1.25 mm, campanulate, green, glabrous. Calyx lobes 0.1 mm long, broad-triangular to triangular. Bud pale green. Standard 4-5 x 4-5 mm, obovate, erect; distal and central portions of undersides purple, margins and proximal areas white or purple-veined; distal and central areas of upper surface white, proximal portion green or purple-veined; apex retuse, margins recurved; claw, c.1.5 mm long, pale green. Wings 3.5-4 x 1-1.5 mm, oblong, longer than keel, both surfaces white, sometimes purple-veined; claw 1-1.5 mm long, pale green. Keel 4.5 x 1.5 mm; distal area purple, white or purple-veined in central and proximal areas; claw 1.5-2 mm, pale green. Stamens 3.5 mm long. Pistil of similar length. Style with a ring of hairs below stigma. Pod, persistent, 3.5-6 x 1.75-2 mm, oblong, valves inflated, yellow-grey, dark grey, dark grey-black, usually indehiscent; beak 0.25-0.5 mm, slightly curved, stout, pungent. Seeds (1-)4(-6) per pod, 1.25-1.5 x 1 mm, oblong-reniform, brick red, orange, olive green, or green-yellow, usually mottled with black.

SIMILAR TAXA

Carmichaelia juncea is somewhat similar to *Carmichaelia compacta* Petrie and *C. curta* Petrie but is easily distinguished from these species by its sprawling, prostrate growth habit and rather slender, wiry branchlets.

FLOWERING

October - January

FLOWER COLOURS

Violet/Purple, White

FRUITING

November - March

LIFE CYCLE

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

PROPAGATION TECHNIQUE

Easy from seed or semi-hardwood cuttings. Interesting plant for rock-gardens, and tolerant of exposed, dry conditions. Prefers free-draining soils, in full sun. An excellent pot plant. Like many South Island *Carmichaelia*, it does better in drier, less humid climates.

THREATS

An apparently biologically sparse species, it is now extinct over much of its former range. Now presumed extinct in the North Island. Its near loss from the South Island can be attributed to its natural rarity, thereby increasing its vulnerability to over-collection. The flat creeping habit and requirement for open ground, means it is highly vulnerable to weed competition. It is browsed by rabbits, possums, and livestock.

ETYMOLOGY

carmichaelia: After Carmichael, a botanist

juncea: Rush-like

ATTRIBUTION

Fact Sheet prepared for NZPCN by P.J. de Lange (30 November 2005). Description modified from Heenan (1995).

REFERENCES AND FURTHER READING

Heenan, P. B. 1995: A taxonomic revision of *Carmichaelia* (Fabaceae - Galegeae) in New Zealand (Part I). *New Zealand Journal of Botany* 33: 455-75.

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* 11(4): 285-309.

NZPCN FACT SHEET CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Carmichaelia juncea* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/carmichaelia-juncea/> (Date website was queried)

MORE INFORMATION

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