

# Carmichaelia appressa

## COMMON NAME

prostrate broom

## SYNONYMS

None (first described in 1945)

## FAMILY

Fabaceae

## AUTHORITY

*Carmichaelia appressa* G.Simpson

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

## NVS CODE

CRMAPP

## CHROMOSOME NUMBER

$2n = 32$

## CURRENT CONSERVATION STATUS

2017 | At Risk – Naturally Uncommon | Qualifiers: RF, RR

## PREVIOUS CONSERVATION STATUSES

2012 | At Risk – Naturally Uncommon | Qualifiers: RF, RR

2009 | At Risk – Naturally Uncommon | Qualifiers: OL

2004 | Range Restricted

## BRIEF DESCRIPTION

Sprawling yellow-green mounds of apparently leafless branches inhabiting Kaitorete Spit and central Canterbury beaches. Branches yellow-green, oval in cross section, grooved. Leaves rarely present at tips of branches or in shaded parts of plant, consisting of three leaflets. Flowers pea-like, small, purple streaked, in small clusters. Fruit in a dry pod.

## DISTRIBUTION

Endemic. New Zealand: South Island (Kaitorete Spit and probably also the mouth of Rakaia River)

## HABITAT

A species of gravelly sandy loam, stabilised sand dunes, and ridges of sand developed along the Kaitorete Spit.



No caption. Photographer: David A. Norton, Licence: CC BY-NC.



*Carmichaelia appressa*, Kaitorete Spit. Photographer: John Barkla, Licence: CC BY.

## DETAILED DESCRIPTION

Prostrate, occasionally decumbent, densely branched shrub, 0.25-0.40 × 1.00-2.00 m. Branches 0.3-1.0 m long and up to 30 mm diameter, prostrate or weakly decumbent. Cladodes 50-150 × 1-2 mm, prostrate, sometimes weakly ascending, linear, striate, compressed, weakly plano-convex, light green to green-yellow, sparsely hairy to glabrous, apex subacute or obtuse; leaf nodes 7-11. Leaves 1-3-foliolate, present on seedlings and rarely on adults, terminal leaflet larger; lamina 2.0-5.0 × 1.0-2.5 mm, obovate, fleshy, green, upper and lower surfaces sparsely to moderately hairy, apex emarginate, base cuneate; petiole 1-11 mm long, sparsely hairy, green; petiolule < 0.25 mm long, glabrous, light green. Leaves on cladodes reduced to scales, < 0.5 mm long, broad-triangular, glabrous, apex subacute, margin hairy. Stipules c.0.5 × c.0.5 mm, free, triangular, upper surface glabrous, lower surface glabrous or with a few scattered hairs and becoming glabrous with age, apex acute, margin hairy. Inflorescence a raceme, 1-3 per node, each with 2-13 flowers. Peduncle 1.0-8.5 mm long, glabrous or sparsely hairy, green, occasionally flushed red. Bracts < c.0.5 mm long, triangular, glabrous, apex acute, margin hairy. Pedicel 2-4 mm long, glabrous to sparsely hairy, pale green. Bracteoles on upper part of pedicel, lanceolate, glabrous, green, occasionally flushed red, apex subacute, margin hairy. Calyx c.1.5 × 1.8-2.0 mm, campanulate, green, outer surface glabrous to sparsely hairy. Calyx lobes 0.2-0.3 mm long, triangular, inner surface glabrous, appressed to corolla, apex acute. Bud green or white. Standard 4-5 × 5-6 mm, obovate, patent, positioned in central part of keel, keeled, apex reflexed; inner surface with a purple blotch, white margins, purple-veined; outer surface white, green at base, purple-veined; claw c.1 mm long, pale green. Wings 4.00-5.00 × 1.75-2.00 mm, oblong, longer than keel, apex obtuse; inner and outer surfaces white, and purple-veined; auricle rounded, white; claw c.1.5 mm long, pale green. Keel 3.5-4.0 × c.1.5 mm, apex obtuse; distal part of inner and outer surfaces purple, proximal part white; auricle < 0.5 mm long, rounded, pale green; claw c.1.5 mm long, pale green. Stamens 3.00-3.75 mm long; dorsal filaments connate for 7/8 of length, outer stamens free for c.0.5 mm. Pistil c.4 mm long, exerted beyond the stamens, glabrous; ovules 5-8. Pods 8-12 × 3-4 mm, elliptic to broad-oblong, laterally compressed, spreading, brown or grey, valves dehiscent; beak c.1 mm long, in a central apical position, stout, pungent-tipped. Seeds c.2.0 × c.1.5 mm, reniform, 2-per pod, dark purple or black, usually persistent on replum.

## SIMILAR TAXA

*Carmichaelia appressa* is distinguished from *C. australis* R.Br. (at least on Kaitorete Spit) by its prostrate growth habit and yellow-green cladodes.

## FLOWERING

October - January

## FLOWER COLOURS

Violet/Purple, White

## FRUITING

December - May

## LIFE CYCLE

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

## PROPAGATION TECHNIQUE

Easily grown from seed and hardwood cuttings.

## THREATS

The habitat of *C. appressa* is very susceptible to damage by off-road motorbikes and 4WD vehicles and excavation for sand. A large part of its habitat is protected within a Scientific Reserve. For the time being the species seems secure.

## ETYMOLOGY

**carmichaelia:** After Carmichael, a botanist

## ATTRIBUTION

Description from Heenan (1996).

## REFERENCES AND FURTHER READING

Heenan, P.B. 1996: A taxonomic revision of *Carmichaelia* (Fabaceae - Galegeae) in New Zealand (part II). *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* 11(4): 285-309.

## MORE INFORMATION

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