

# Carmichaelia nana

## COMMON NAME

dwarf broom, dwarf carmichaelia

## SYNONYMS

*Carmichaelia ensyii* Kirk; *Carmichaelia ensyii* var. *ambigua* G.Simpson; *Carmichaelia ensyii* var. *orbiculata* (Col.) Kirk; *Carmichaelia orbiculata* Col.; *Carmichaelia australis* var. *nana* Hook.f.

## FAMILY

Fabaceae

## AUTHORITY

*Carmichaelia nana* (Hook.f.) Hook.f.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

## NVS CODE

CARNAN

## CHROMOSOME NUMBER

2n = 32

## CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Vulnerable | Qualifiers: DP

## PREVIOUS CONSERVATION STATUSES

2012 | At Risk – Declining | Qualifiers: DP

2009 | Not Threatened

2004 | Not Threatened

## BRIEF DESCRIPTION

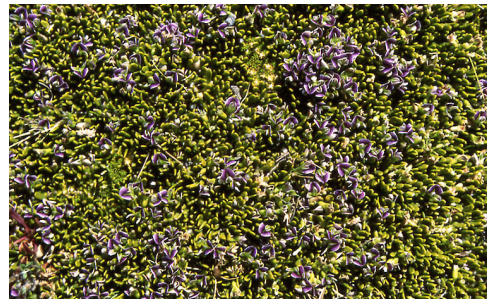
Hard cushions of short tightly packed green leafless twigs. Twigs flattened, 1.5–2.5mm wide, yellowish to reddish. Flowers small, purple, inconspicuous at the tip of twigs. Fruit a small dry pod containing 1–3 hard yellowish seeds and which only partly opens.

## DISTRIBUTION

Endemic. New Zealand: North Island (Central Volcanic Plateau and adjacent ranges), South Island (Marlborough, Canterbury, and Otago).

## HABITAT

Lowland to alpine. Inhabiting stable but unconsolidated alluvial river beds and eyots, river terraces, moraines, shingle slopes, lahar mounds and inland volcanogenic dunes



*Carmichaelia nana*. Photographer: John Barkla, Licence: CC BY.



*Carmichaelia nana*. Photographer: John Barkla, Licence: CC BY.

## DETAILED DESCRIPTION

Dwarf, spreading shrub, 20–60 mm tall, 0.5 m wide, usually forming a dense mat of cladodes. **Branches** short, stout, often below ground level, 10–20 mm diameter. **Cladodes** linear, striate, compressed, usually erect and crowded, green or yellow-green, often hairy when young, glabrous at maturity, 10.0–50.0 × 1.5–2.5 mm; apex subacute, yellow, yellow-green, or red; leaf nodes 2–7. **Leaves** simple, obovate to broad-oblong, fleshy, green, only occasionally present on seedlings and absent on adults, 4–5 × 1–2 mm; both surfaces hairy; apex retuse to obtuse; base cuneate; margins hairy; petiole glabrous or hairy, c. 1 mm long. Leaves on cladodes reduced to a scale, narrow to broad-triangular, glabrous, < 1 mm long; apex subacute to obtuse. **Stipules** free, c. 0.50 × c. 0.25 mm; margin hairy. **Inflorescence** a raceme, 1–2 per node, each with 1–4 flowers. **Peduncle** glabrous to hairy, green, 3–4 mm long. **Bracts** triangular, glabrous, pale green becoming membranous, < 0.5 mm long; apex subacute to obtuse; margin hairy. **Pedicel** glabrous or hairy, pale green, 1–2 mm long. **Bracteoles** on pedicel, glabrous, < 0.5 mm long; apex acute; margin hairy. **Calyx** campanulate, green to green-yellow, 1.5–2.0 × 1.0–2.0 mm; inner surface glabrous; outer surface glabrous to sparsely hairy. **Calyx lobes** narrow- to broad-triangular, c. 0.5 mm long; apex subacute to obtuse, red to green; margin hairy or occasionally glabrous. **Bud** pale purple. **Standard** obovate, spreading horizontally above wings and keel, 4.5–6.5 × 4–5 mm; upper surface purple, with white margins and purple-veined; lower surface white, purple-veined; apex retuse; margin recurved; claw pale green, c. 1.25 mm long. **Wings** oblong, longer than keel, 3.50–5.50 × c. 1.25 mm; both surfaces white, flushed purple, sometimes purple-veined; auricle rounded, pale green or white, < 0.25 mm long; claw pale green, c. 2 mm long. **Keel** 4.50–5.00 × c. 1.25 mm; distal area of both surfaces purple, white in central and proximal areas, sometimes purple-veined; auricle rounded, pale green or white, c. 0.25 mm long; claw pale green, c. 2 mm long. **Stamens** 3.5–5.0 mm long; lower filaments connate for c. ½ length and with outside filaments free for 1.75–2.25 mm. **Pistil** exerted beyond stamens, 4–6 mm long; style glabrous or with few scattered hairs on adaxial surface; ovules 4–8. **Pod** short- or broad-oblong, occasionally broad-elliptic or ovate, laterally compressed, brown, black, or yellow-green, one valve partially dehiscent from upper replum, other valve usually indehiscent or only weakly dehiscent, 5.0–7.0 × 4.5–5.5 mm; beak in a central apical position, straight or slightly curved, 1–3 mm long. **Seeds** oblong-reniform, 1–3 per pod, yellow, yellow-green, green, or black, occasionally with green or black mottling, 2.50–3.00 × 1.75–2.00 mm.

## SIMILAR TAXA

Distinguished from all other dwarf *Carmichaelia* species by its smaller flowers, usually short-oblong or broad-oblong pod, and having one valve partially dehiscent from the upper replum.

## FLOWERING

November–February

## FLOWER COLOURS

Violet/Purple, White

## FRUITING

January–May

## PROPAGATION TECHNIQUE

Easily grown from seed and hardwood cuttings. An attractive species that deserves wider cultivation. Dislikes humidity.

## CONTROL TECHNIQUES

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

## ETYMOLOGY

**carmichaelia**: After Carmichael, a botanist

**nana**: Small

## ATTRIBUTION

Description adapted from Heenan (1995)

## REFERENCES AND FURTHER READING

Heenan PB. 1995. A taxonomic revision of *Carmichaelia* (Fabaceae - Galegeae) in New Zealand (part I). *New Zealand Journal of Botany* 33(4): 455–475. <https://doi.org/10.1080/0028825X.1995.10410618>.

Thorsen MJ, Dickinson KJM, Seddon PJ. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285–309. <https://doi.org/10.1016/j.ppees.2009.06.001>.

**MORE INFORMATION**

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