Carmichaelia arborea

COMMON NAME
South Island broom, tree broom, swamp broom

SYNONYMS
Carmichaelia grandiflora var. alba Kirk; Carmichaelia grandiflora var. dumosa Kirk; Lotus arboreus G.Forst.; Carmichaelia australis var. grandiflora Hook.f.; Carmichaelia grandiflora (Hook.f.) Hook.f.;

FAMILY
Fabaceae

AUTHORITY
Carmichaelia arborea (G.Forst.) Druce

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
CARARB

CHROMOSOME NUMBER
2n = 32

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUS
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Shrub with many erect green branches inhabiting wetter South Island mountains. Branches green, grooved, oval in cross section. Leaves small, distributed along branches, consisting of 1-5 leaflets. Flowers small, pea-like, white sometimes with a purplish centre, in erect clusters. Fruit in a small dry pod, seed flattened.

DISTRIBUTION
Endemic. New Zealand: South Island (west of the Main Divide in Westland, Canterbury, Otago, and Southland; uncommon to the east of the Main Divide in Canterbury

HABITAT
Lowland to montane. Inhabiting glacial moraine, river terraces, subalpine scrub, rock outcrops and cliffs, forest margins, and recently disturbed ground.
FEATURES
Shrub, up to 2 × 2 m; sometimes suckering and forming broad patches up to 1 m tall. Branches up to 80 mm diameter, stout, ascending and spreading. Cladodes 70.0-150.0 × 1.5-3.0 mm, erect to spreading, sometimes drooping, rarely divaricate, linear, striate, compressed, green to dark green, sometimes hairy when young, glabrous when mature, apex obtuse; leaf nodes 4-11. Leaves 1-5-foliolate, present on seedlings and on adult plants, terminal leaflet larger; lamina 2.0-7.0 × 1.5 mm, obovate, broad-obovate to broad-elliptic, fleshy, green, upper surface glabrous, lower surface glabrescent, apex emarginate, base cuneate; petiolo 7-11 mm long, glabrous except for a tuft of hairs at petiolo base, green; petiolo < 0.5 mm long, glabrous, light green. Leaves on cladodes reduced to scales, < 0.8 mm long, broad-triangular, glabrous, apex subacute. Stipules 0.9-1.3 × 1.0-1.4 mm, free, triangular, glabrous, apex subacute with a tuft of hairs, margin hairy. Inflorescence a raceme, 1 per node, each with 5-10 flowers clustered on upper third of raceme. Peduncle c.8 mm long, glabrous, green. Bracts < 1 mm long, triangular, pale brown, upper surface hairy, lower surface glabrous, apex acute to subacute, margin hairy. Pedicel 1-1.5 mm long, glabrous, green. Bracteoles < 0.5 mm long, on upper part of pedicel or on receptacle, pale brown, upper surface hairy, lower surface glabrous, apex subacute to obtuse and with tuft of hairs. Calyx 3.0-3.5 × 2.0-2.5 mm, campanulate, green, outer surface glabrous. Calyx lobes 0.5-1.0 mm long, triangular, inner surface hairy, appressed to corolla, apex acute. Standard 6.0-6.5 x 7.0-8.0 mm, broad-ovate, patent, positioned towards front of keel, keeled, apex retuse or obtuse with an apiculate tip; white or with a pale central blotch, veins sometimes weakly flushed red-purple; claw c.1 mm long, pale green. Wings 6.0-7.0 x 1.5-2.0 mm, oblong, longer than keel, white, apex obtuse; auricle 0.2-0.3 mm long, triangular; claw 1.8-2.0 mm long, pale green. Keel 5.0-6.0 × 1.5-1.8 mm, white, apex obtuse; auricle 0.3-0.5 mm long, triangular, white; claw 2-2.5 mm long, pale green. Stamens 4.5-5.0 mm long; dorsal filaments connate for c. ¾ of length, outer stamens free for c.0.8 mm. Pistil 5-6 mm long, exserted beyond stamens, glabrous; ovules 8-11; stigma with a ring of hairs at base. Pods 7.0-15.0 × 2.7-4.5 mm, oblong or broad-oblong, laterally compressed, erect, light grey or pale brown, both valves dehiscent at distal end; beak 2.0-2.5 mm long, in a central apical position, stout, pungent tipped. Seeds 1-3 per pod, 2.0-3.7 × 1.6-2.4 mm, broad-oblong to broad-elliptic, light brown or tan.

SIMILAR TAXA
Carmichaelia arborea is allied to C. odorata Benth. from which it is distinguished by the shorter peduncle and rachis, fewer, larger, mostly white flowers, with keels 5-6 mm long (cf. 3.5-4.0 mm long), and larger pods.

FLOWERING
December - March

FLOWER COLOURS
Violet/Purple, White

FRUITING
January - December

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

PROPAGATION TECHNIQUE
Easily grown from seed and hardwood cuttings.

ETYMOLOGY
carmichaelia: After Carmichael, a botanist
arborea: From the Latin arbor ‘tree’, meaning tree-like

ATTRIBUTION
Description from Heenan (1996)

REFERENCES AND FURTHER READING

MORE INFORMATION