



Carmichaelia williamsii

Common Name(s):

William's Broom, Giant-flowered broom

Current Threat Status (2012):

At Risk - Relict

Distribution:

Endemic. North Island only, where it known mainly from northern offshore islands (particularly the Poor Knights and Alderman Islands) to East Cape. On the mainland it is now known from only two small remnant populations near East Cape.

Habitat:

A strictly coastal species of open forest, scrub, cliff faces and talus slopes.

Features*:

Erect to suberect, spreading, usually leafless shrub up to 2-4 x 2-4 m. Branches 50-100 mm diam., stout, rather woody, ascending or spreading. Cladodes 130-380 x 5-12 mm, yellow-green, green to dark green, stout, linear, striate, compressed, glabrous, apex obtuse; leaf nodes 7-16. Leaves present on seedlings and reversion shoots or shaded cladodes of adult plants. Petiole 1-5 mm. Lamina fleshy, 1-3-foliolate, 6-23 x 5-15 mm, green often yellow toward proximal end, elliptic, obovate to broad-elliptic, apex retuse, base cuneate. Terminal leaflet larger than lateral leaflets. Leaves on cladodes reduced to scales, 1 mm long, broad-triangular. Stipules 1.5 x 1 mm, free, broad-triangular, sometimes with a second pair of denticles. Inflorescence a 1-6-flowered raceme, usually in fascicles of 3-4 per node. Peduncle 1-6 mm long, hairy, green. Bracts 1-1.4 x 0.8-1.5 mm, narrow-triangular to broad-triangular, apex subacute to obtuse. Pedicel 4-8 mm long, hairy, pale green. Bracteoles 0.4-0.6 x 0.2 mm, narrow-triangular to linear, apex subacute. Calyx 8-9 x 4.7-5.5 mm, campanulate, green. Bud green becoming yellow-green at maturity. Standard 18-22 x 11-13.5 mm, ovate, patent, keeled, margins incurved, apex subacute to weakly retuse, greenish-yellow, yellow, to pale yellow with central portion and marginal veins maroon-red to purple. Wings 20-22 x 4-4.5 mm, oblong, falcate, shorter than keel, yellow to pale yellow. Keel 25-27 x 7-8 mm, apex narrow and acute, yellow, distal part of inner surface maroon-red or purple. Stamens 28-30 mm long; dorsal filaments fused for $\frac{3}{4}$ length, otherwise free for remainder of length. Pistil 32-33 mm long, exserted well beyond stamens. Pods 23-34 x 6-12 mm, oblong to oblanceolate, light to dark brown, valves dehiscent; beak 2-4 mm, stout, apex pungent. Seeds 5-15 per pod, 3-5 x 2-3 mm, reniform to oblong-reniform, dull red to orange-red usually mottled with black.



Caption: Tatua Peak, Aorangi
Photographer: Peter de Lange



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Flowering:

From July and October, though sporadic flowering may occur throughout the year.

Fruiting:

Throughout the year.

Threats:

Flowers, fruits and seed are palatable to rats. Some populations are at risk from coastal erosion. Plants tend to be short-lived, and are often inflicted with lemon tree borer (*Oeomona hirta*). Because the species is principally bird-pollinated, by New Zealand honeyeaters, the loss of these pollinators may affect reproductive effort. Though previously ranked as Nationally Endangered on the basis of the loss of mainland populations and the limited extent of island populations, it is now ranked as Relict on the basis that the loss of (most) mainland populations was historical and the island populations appear stable

*Attribution:

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

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

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