

Kunzea amathicola

COMMON NAME

rawiritoa, kānuka

SYNONYMS

None first described in 2014

FAMILY

Myrtaceae

AUTHORITY

Kunzea amathicola de Lange et Toelken

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

CHROMOSOME NUMBER

2n = 22

CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Vulnerable | Qualifiers: DP, De

PREVIOUS CONSERVATION STATUS

2013 | At Risk – Declining

BRIEF DESCRIPTION

Shrubs or trees of the coastal sites (especially active dune field) of the western North and north-western South Island. Foliage dimorphic with 'juveniles' forming small flowering shrubs on active dunes and 'adults' dense forest on more stable dunes. Branches numerous bearing masses of dark green glossy leaves and sprays of usually widely spaced white flowers. Branchlets and leaf margins densely covered in long silky hairs (hairs on leaf margins in thick wefts meeting at leaf apex). Leaves to 25 mm long, soft to grasp. Flowers large (up to 12.5 mm diameter) borne in elongated sprays (the flowers seemingly solitary (monadic)), white with a red centre, each flower subtended by a broad leaf-like bract. Fruit a dry capsule 2.4–4.8 × 3.6–6.0 mm.

DISTRIBUTION

Endemic. New Zealand: North Island (mostly westerly from Te Pahi south to Wellington; also recorded from Kawau Island and Te Hauturu-o-Toi / Little Barrier Island, and once from the northern Hauraki Plains), South Island (from Farewell Spit south and west to West Whanganui Inlet).

HABITAT

Coastal to lowland. A species mostly inhabiting mobile sand, sand dunes and sandy soils. Occasionally extending inland onto clay soils (at Unuwahao (Te Pahi), Around the Kaipara Harbour, Wellington and around Puponga)



Intact capsule, Pilch Point, June 2008.
Photographer: Simon Walls, Date taken:
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Dehiscent capsules, Pilch Point, July 2009.
Photographer: Simon Walls, Date taken:
09/07/2009, Licence: CC BY-NC.

WETLAND PLANT INDICATOR STATUS RATING

FACU: Facultative Upland

Occasionally is a hydrophyte but usually occurs in uplands (non-wetlands).

DETAILED DESCRIPTION

Shrubs or trees up to 15 m tall; heterophyllous. Those with persistent juvenile foliage mostly present in exposed conditions and unstable habitats, or at the margins of adult stands, usually forming domed, spreading shrubs up to 2 × 3 m with numerous erect to ascending, often interwoven branches; those with adult foliage forming single to multi-trunked trees up to 18 × 8 m, with very broad, spreading canopies. **Trunk** 1–2, 0.10–0.85 m d.b.h. **Bark** grey or grey-brown, ± elongate, tessellated, firmly attached, detaching basally with age, and peeling upwards along trunk in broad, tabular strips. **Branches** numerous, erect to suberect not spreading, often interwoven, arching and spreading; branchlets numerous, slender, branchlet indumentum copious, persistent; hairs silky, antrorse-appressed, usually flexuose, 0.23–0.50 mm long. **Leaves** sessile to shortly petiolate, well-spaced to crowded along branchlets, dark glossy green above, paler beneath. Juvenile lamina 2.4–5.3 × 1.2–2.3 mm, ovate, broadly ovate, rhomboid to obovate, adult lamina 6.0–12.5 × 1.8–3.8 mm, oblong, oblong-obovate, broadly oblanceolate to broadly lanceolate; apex of both juvenile and adult lamina obtuse, rounded to subacute, rostrate, base attenuate to narrowly attenuate; lamina margin completely obscured by a dense covering of antrorse-appressed hairs aligned in a thick, up to 0.6 mm wide, white, plumose band meeting with abaxial midrib hairs at the leaf apex. Inflorescence usually a well-spaced, elongate, 5–20-flowered botryum up to 200 mm long. **Inflorescence** axis densely invested with silky, antrorse-appressed, weakly flexuose hairs. **Pherophylls** persistent, foliose, spreading, dark glossy green, oblong, oblong-obovate, broadly obovate to elliptic; strongly recurved, to about half of total length or flat; juvenile lamina 2.0–5.3 × 1.2–2.3 mm, adult lamina 4.1–6.0 × 1.6–3.1 mm; apex obtuse, cuspidate, base attenuate; lamina margin obscured by dense covering of antrorse-appressed hairs. **Pedicels** 1.3–4.9 mm long, sparsely to densely invested in antrorse-appressed, weakly flexuose, silky hairs. **Flower buds** pyriform to hemispherical, apex usually flat or weakly domed prior to bud burst; calyx valves not meeting. **Flowers** 6.8–12.5 mm diameter. **Hypanthium** 1.9–4.0 × 3.0–5.6 mm, dark green or red-green; broadly obconic, turbinate to hemispherical, usually densely covered in silky, antrorse-appressed hairs, sometimes glabrous. **Calyx lobes** 5–8, 0.6–1.4 × 0.6–1.8 mm, ovate, ovate-truncate to broadly obtuse, pale green to red-green; margins glabrescent. **Receptacle** green at anthesis, darkening to crimson after fertilisation. **Petals** 5–8, 1.8–3.7 × 2.0–4.0 mm, white, orbicular to broadly ovate, apex rounded, margins ± finely and irregularly denticulate or crimped, oil glands colourless. **Stamens** 38–90, filaments white. **Anthers** dorsifixed, 0.40–0.60 × 0.20–0.35 mm, ellipsoid, ovoid-ellipsoid or broadly scutiform, latrorse. **Pollen** white. **Anther connective gland** either absent or if present prominent, deep golden-yellow to orange when fresh, drying orange to pink, spheroidal, rather finely papillate. **Ovary** 5–6 locular, each with 23–42 ovules in two rows on each placental lobe. **Style** 2.0–3.2 mm long at anthesis, white or pinkish-white; stigma broadly capitate, at least 1.5× width of style, flat, greenish-white or pale pink, flushing red after anthesis, surface finely granular-papillate. **Fruits** 2.4–4.8 × 3.6–6.0 mm, dark green to chesnut-brown maturing grey, broadly obconic, turbinate or hemispherical, rarely broadly cupular; finely hairy to glabrescent. **Seeds** 1.2–1.7 × 0.3–0.6 mm, oblong, oblong-obovate, narrowly ellipsoid to cylindrical; testa semi-glossy, orange-brown to dark brown; surface coarsely reticulate.

MANAAKI WHENUA ONLINE INTERACTIVE KEY

[Key to the Myrtaceae of New Zealand](#)

SIMILAR TAXA

Kunzea amathicola is distinguished from the other New Zealand *Kunzea* species by its heterophyllous habit (with different juvenile and adult foliage types and the tendency for apparent juveniles to flower and fruit), by the obovate leaves with distinctly hairy leaf margins and midribs (with the hairs meeting at the leaf apex rather than just short of it), and distinctive elongate inflorescences. It is most similar to *Kunzea linearis* and *K. triregensis*. *Kunzea amathicola* is distinguished from *K. linearis* by its non linear leaves, heterophyllous growth habit, elongate inflorescences bearing widely spaced, pedicellate flowers. *Kunzea triregensis* is endemic to the Manawatāwhi / Three Kings Islands where it appears to be the only *Kunzea* species present. It differs from *K. amathicola* by having lanceolate to elliptic pherophylls, and inflorescences that may branch toward the base or near the apices into smaller elongate lateral or more rarely 3-flowered subcorymbiform botrya. For further distinctions see de Lange (2014).

FLOWERING

July–June

FLOWER COLOURS

White

FRUITING

August–June

PROPAGATION TECHNIQUE

Easily grown from fresh seed. Can also be struck with difficulty from semi-hardwood and hardwood cuttings. *Kunzea amathicola* is a very fast growing and attractive species best suited to being planted in a sunny, well drained situation.

THREATS

Kunzea amathicola as *K. aff. ericoides* (a) (AK 286081; “sand”) was listed as ‘At Risk / Declining’ by de Lange et al. (2013). Although widespread this species mostly now occupies highly fragmented and/or relict habitats, in many it is still being cleared for firewood. Very few stands of this species are reserved – the best of these are probably those at Farewell Spit and the adjacent Puponga area.

When myrtle rust (*Austropuccinia psidii*) was detected in New Zealand (May 2017) the conservation status was upgraded as a precautionary measure to ‘Threatened – Nationally Vulnerable’ because, on best advice, it was believed that no indigenous Myrtaceae had resistance to the myrtle rust disease (de Lange et al. 2018). Currently there have been no reports of infected wild trees of *Kunzea* but inoculation trials of the New Zealand species has demonstrated they are susceptible, and further that over time, infected specimens will die. Only time will tell if wild populations of *Kunzea* will be threatened by this rust fungus.

Myrtle rust (*Austropuccinia psidii*) is an invasive fungus that threatens native myrtle species. Learn more myrtlerust.org.nz.

ETYMOLOGY

kunzea: Named after Gustav Kunze (4 October 1793, Leipzig –30 April 1851), 19th century German botanist from Leipzig who was a German professor of zoology, an entomologist with an interest mainly in ferns and orchids

amathicola: From the Greek ammos ‘sand’ and the suffix -cola ‘dweller, inhabitant’, refers to the plant’s tendency to be found in sandy areas

ATTRIBUTION

Fact Sheet prepared for NZPCN by P.J. de Lange 1 September 2014. Description modified from de Lange (2014).

REFERENCES AND FURTHER READING

de Lange PJ. 2014. A revision of the New Zealand *Kunzea ericoides* (Myrtaceae) complex. *Phytokeys* 40: 185 p. <https://doi.org/10.3897/phytokeys.40.7973>.

de Lange PJ, Rolfe JR, Barkla JW, Courtney SP, Champion PD, Perrie LR, Beadel SM, Ford KA, Breitwieser I, Schönberger I, Hindmarsh-Walls R, Heenan PB, Ladley K. 2018. Conservation status of New Zealand indigenous vascular plants, 2017. *New Zealand Threat Classification Series* 22. Department of Conservation, Wellington, NZ. 82 p. <https://www.doc.govt.nz/globalassets/documents/science-and-technical/nztcs22entire.pdf>.

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NZPCN FACT SHEET CITATION

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MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/kunzea-amathicola/>