Kunzea robusta

COMMON NAME
rawirinui, kānuka

SYNONYMS
None - first described in 2014

FAMILY
Myrtaceae

AUTHORITY
Kunzea robusta 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 | Not Threatened

Mohaka River viaduct. Photographer: Jeremy R. Rolfe, Date taken: 17/12/2015, Licence: CC BY.

Stokes Valley, Lower Hutt. Photographer: Jeremy R. Rolfe, Date taken: 08/01/2017, Licence: CC BY.

BRIEF DESCRIPTION
Widespread, common tree of North and South Islands. Bark usually basally detached long leathery strips. Branches bearing masses of green leaves and clusters of small white flowers. Branchlets usually copiously covered in silky, appressed hairs. Leaves variable in size (up to 28 mm long), soft to grasp. Flowers borne in ‘corymbiform’ clusters, white with a red centre. Fruit a small dry capsule 2.2–4.6 × 3.2–5.3 mm.

DISTRIBUTION
Endemic. New Zealand: North Island, South Island.

HABITAT
Coastal to lowland shrubland, regenerating forest and forest margins, also present in montane forest, ultramafic shrubland and very occasionally present in subalpine shrubland (up to 900 m a.s.l.).

WETLAND PLANT INDICATOR STATUS RATING
FACU: Facultative Upland
Occasionally is a hydrophyte but usually occurs in uplands (non-wetlands).

DETAILED DESCRIPTION

Trees 8–30 m tall. **Trunk** 1–6, 0.10–1.0 m d.b.h. **Bark** stringy, or coarsely tessellated, coriaceous, firmly attached above, detaching basally, often hanging semidetached; peeling upwards along trunk in narrow to broad, tabular strips up to 4 m long. **Branches** initially erect, soon arching outwards and spreading; branchlets numerous, slender; sericeous, indumentum copious, hairs either long or short antrorse-appressed; if long, then weakly flexuose 0.15–0.38 mm long; if short, not flexuose, 0.09–0.15 mm long. In eastern Coromandel Peninsula and coastal East Cape to Mahia Peninsula, branchlet indumentum in mixtures of divergent 0.03–0.08 mm long hairs, and sparse, 0.1–0.2 mm long, antrorse-appressed hairs. In the Rangitikei region, branchlet hairs of seedling and juveniles divergent, short 0.04–0.10 µm long. **Leaves** sessile to shortly petiolate, light green or dark green above, paler beneath; oblanceolate, broadly oblanceolate, broadly lanceolate, lanceolate to linear-lanceolate, rarely elliptic to obovate; apex subacute to acute, rarely obtuse, rostrate or shortly apiculate, base attenuate to narrowly attenuate; lamina margin initially finely covered with a thin, interrupted band of spreading to antrorse-appressed hairs not or rarely meeting at apex; hairs shedding with age. Lamina of juvenile plants from coastal areas and northern North Island 14.6–28.4 × 1.6–2.5 mm; from inland areas, 3.2–6.3 × 0.7–1.5 mm; adult lamina of plants from coastal areas and northern North Island 4.9–20.1 × 0.9–3.0 mm; from inland areas, 5.8–12.3 × 1.2–2.2. **Inflorescence** mostly a compact corymbiform to shortly elongate 1–30-flowered botryum up to 60 mm long; extending near end of flowering season as an 4–12-flowered, elongate botryum up to 80 mm long;. **Pherophylls** deciduous or persistent; squamiform grading into foliose; squamiform pherophylls 0.4–1.2 × 0.3–0.6 mm, broadly to narrowly deltoid or lanceolate, apex acute, subacute to obtuse, margins finely ciliate; foliose pherophylls 6.0–17.9 × 1.1–1.8 mm, elliptic, oblanceolate, broadly lanceolate to lanceolate, apex obtuse, base attenuate; margin densely covered by antrorse-appressed hairs. **Pedicels** 1.2–5.2 mm long at anthesis. **Flower buds** pyriform to obconic, apex flat or weakly domed prior to bud burst; calyx valves not meeting. **Flowers** 4.3–12.0 mm diameter. **Hypanthium** 2.1–4.1 × 3.0–5.2 mm, broadly obconic to turbinate, sometimes cupular, rim bearing five persistent calyx lobes. Hypanthium surface when fresh faintly ribbed and sparingly dotted with pink or colourless oil glands, these drying dull yellow-brown or brown; either finely pubescent with the ribs and veins conspicuously covered in longer silky, antrorse-appressed hairs, or glabrous; hypanthium similar when dry though with the ribs more strongly defined and clearly leading up to calyx lobes. **Calyx lobes** 5, coriaceous, 0.52–1.1 × 0.60–1.4 mm, broadly ovate, ovate-truncate to broadly obtuse, glabrate. **Receptacle** green or pink at anthesis, darkening to crimson after fertilisation. **Petals** 5–6, 1.5–3.8 × 1.3–3.6 mm, white, rarely pink, orbicular, suborbicular to ovate, apex rounded to obtuse, oil glands colourless. **Stamens** 15–58 in 2 weakly defined whorls, filaments white. **Anthers** 0.38–0.63 × 0.18–0.32 mm, ellipsoid to ovoid-ellipsoid or deltoid. **Pollen** white. **Anther connective gland** prominent, light pink, salmon pink, yellow to orange when fresh, drying dark orange, orange-brown or dark brown, spheroidal, finely rugulose or papillate. **Ovary** 5–6 locular. **Style** 2.0–3.5 mm long at anthesis, white or pinkish-white; stigma broadly capitate, flat, greenish-white or pale pink, flushing red after anthesis. **Fruits** 2.2–4.6 × 3.2–5.3 mm, maturing greyish white, obconic, broadly obconic to ± turbinate, rarely cupular; hairy, (rarely glabrous). **Seeds** 0.9–1.1 × 0.35–0.48 mm, oblong, oblong-obovate, oblong-elliptic; 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 robusta is usually a tall tree (up to 30 m tall) inhabiting coastal to montane successional forested habitats; with the adult leaf surfaces glabrous except for the margins and midrib which are more or less finely covered with a thin, often interrupted band of deciduous hairs tending toward glabrate; and with inflorescences that are initially corymbiform, often elongating toward end of flowering season; and bearing foliose and squamiform, mostly deciduous pherophylls .

FLOWERING

August–June

FLOWER COLOURS

Red/Pink, White

FRUITING

Jul–May

PROPAGATION TECHNIQUE

Easily grown from fresh seed. Can be grown with great difficulty from semi-hardwood cuttings.

THREATS

When myrtle rust (*Austropuccinia psidii*) was detected in New Zealand (May 2017) the conservation status was upgraded as a precautionary measure from 'Not Threatened' 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
robusta: Sturdy

TAXONOMIC NOTES

Due to website space limitations the description of *Kunzea robusta* provided here is much abridged from that offered in de Lange (2014). As circumscribed by de Lange (2014) remains a variable species, and that treatment recognises three races which may warrant further study. *Kunzea robusta* is the most widespread, common New Zealand species, and it is not only highly variable, but readily forms hybrids with other *Kunzea* in disturbed habitats. Nevertheless, even in hybrid zones branchlet hairs and bark characters will help distinguish this species.

ATTRIBUTION

Fact Sheet prepared for NZPCN by P.J. de Lange 10 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.

NZPCN FACT SHEET CITATION

Please cite as: de Lange, P.J. (Year at time of access): Kunzea robusta Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/kunzea-robusta/ (Date website was queried)

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/kunzea-robusta/