Kunzea tenuicaulis

COMMON NAME
Geothermal kanuka

SYNONYMS
Leptospermum ericoides var. microflorum G.Simpson; Kunzea ericoides var. microflora (G.Simpson) W.Harris

FAMILY
Myrtaceae

AUTHORITY
Kunzea tenuicaulis de Lange

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Dicotyledonous Trees & Shrubs

NVS CODE
KUNEVM

CHROMOSOME NUMBER
2n = 22

CURRENT CONSERVATION STATUS
2018 | Threatened – Nationally Endangered

PREVIOUS CONSERVATION STATUSES
2012 | At Risk – Naturally Uncommon | Qualifiers: RR
2009 | At Risk – Naturally Uncommon
2004 | Range Restricted

BRIEF DESCRIPTION
Shrubs or small much branched trees inhabiting geothermal areas of the Taupo Volcanic Zone. Bark loose, flaking readily. Branches sinuous curved, slender. Branchlets numerous, slender, often pendulous, young stems copiously covered in short erect hairs. Leaves numerous, up to 10 mm long (usually much less). Flowers white, up to 9 mm diameter, borne in dense clusters. Fruit a small dry capsule 1.0–3.3 × 1.6–3.2 mm.

DISTRIBUTION
Endemic. New Zealand: North Island - Central Volcanic Field from Kawerau south to Tokaanu on the southern side of Lake Taupo.

HABITAT
Kunzea tenuicaulis is one of the dominant shrub or small trees inhabiting active geothermal fields and the ground in the immediate vicinity of these.
FEATURES
Decumbent, trailing subshrubs, shrubs or small trees 0.1–8.0 × 2.0–8.0 m. For those specimens with a tree habit, crown widely spreading, often arching to pendulous. For those specimens found around active fumaroles or on open, geothermally heated ground, growth habit varying from completely decumbent and densely branched, with stems sprawling across ground, to semi-erect, densely branched, widely spreading, often pendulous. Trunk in tree forms 0.1–0.6 m d.b.h., at first erect, soon widely spreading and curving to somewhat sinuous, branching close to base, thinning in close canopies only; in decumbent plants trunk virtually indistinguishable, trailing to semi-erect, curved and somewhat sinuous. Bark greyish brown to brown, initially firm, elongate, over time cracking transversely with margins gradually detaching and rolling-in, upper bark surface often with much secondary peeling and transverse cracking. Branches narrow, long, flexuous, in decumbent plants prostrate, trailing, widely spreading, and arching, pendulous; branchlets slender, leafy; indumentum dense, hairs divergent, 0.03–0.08 mm. Leaves heterophyllous, seedling and subadult leaves 0.9–4.5 × 0.2–0.6 mm, red-green or bright green; lamina finely linear-lanceolate, long persistent in stressed habitats; adult leaves 1.1–10.0 × 0.8–2.8 mm, dark glossy green, to bronze-green, oblanceolate, obovate to obovate-rostrate; usually recurved from about ½ of total length, apex obtuse, rounded, rarely subacute, cuspidate; base attenuate; lamina margin sparsely to densely, finely sericeous; hairs appressed to weakly spreading, white, aligned in 1 row not quite meeting at cuspidate leaf apex. Inflorescence a compact, 1–10-flowered corymbiform botryum up to 25 mm long; axis densely invested with divergent hairs. Pherophylls deciduous, 0.5–1.0 mm long, initially foliose soon squamiform; foliose pherophylls pale green, oblong, oblong-obovate to oblanceolate; squamiform pherophylls brown or pink, broadly deltoid to oblong-ovate, glabrous except for the finely ciliate margin and apex. Pedicels 1.0–2.4 mm long at anthesis, finely hairy. Flower buds clavate to pyriform, apex distinctly domed prior to bud burst, calyx valves ± meeting. Flowers 3.3–9.0 mm diam. Hypanthium 1.8–3.3 × 1.7–3.1 mm, dark green often basally mottled red, drying brown to grey; narrowly cupular to campanulate terminating in a slightly thicker rim bearing five persistent calyx lobes; surface smooth, puberulent. Calyx lobes 5, upright, 0.4–0.8 × 0.4–1.0 mm, oblong, oblong-obovate to oblanceolate; squamiform pherophylls brown or pink, broadly deltoid to oblong-ovate, glabrous except for the finely ciliate margin and apex. Pedicels 1.0–2.4 mm long at anthesis, finely hairy. Flower buds clavate to pyriform, apex distinctly domed prior to bud burst, calyx valves ± meeting. Flowers 3.3–9.0 mm diam. Hypanthium 1.8–3.3 × 1.7–3.1 mm, dark green often basally mottled red, drying brown to grey; narrowly cupular to campanulate terminating in a slightly thicker rim bearing five persistent calyx lobes; surface smooth, puberulent. Calyx lobes 5, upright, 0.4–0.8 × 0.4–1.0 mm, oblong, oblong-obovate to broadly triangular, ± subtended by a faint to prominent groove at the external junction with the hypanthium. Receptacle green or pale pink at anthesis, darkening to crimson-red or magenta after fertilisation. Petals 5–6, 1.4–2.0 × 1.4–2.0 mm, white, pinkish white, or pink, orbicular, cuneate, apex obtuse to rotund, oil glands not evident when fresh, drying colourless. Stamens 10–32 in 1–2 weakly defined whorls, filaments white tinged rose-pink toward base. Anthers 0.04–0.08 × 0.02–0.04 mm, testiculate, latrorse. Pollen white. Anther connective gland prominent, orange when fresh, drying pale brown, spheroidal, distinctly papillate. Ovary 3–5 locular, each with 15–22 ovules in two rows on each placental lobe. Style 2.0–3.6 mm long, white; stigma capitulate, scarcely wider than style, pale cream to pink, surface papillate to rugulose. Fruits ± persistent, 1.0–3.3 × 1.6–3.2 mm, light brown to grey, usually barrel-shaped, rarely cupular. Seeds 0.80–1.00 × 0.45–0.50 mm, narrowly oblong, oblong, oblong-obovate to falcate-oblong, orange-brown, surface coarsely reticulate.

SIMILAR TAXA
From all the other New Zealand members of the K. ericoides complex. K. tenuicaulis is consistently distinguished by its slender, twiggy branchlets, grey bark flaking into small irregular shards, early flowering, and ecology.

FLOWERING
August-January

FLOWER COLOURS
White

FRUITING
December-February

PROPAGATION TECHNIQUE
Easily grown from fresh seed. Can be grown with extreme difficulty from semi-hardwood and hardwood cuttings.

THREATS
Not seriously threatened. It is listed because of its virtual restriction to active/senescent geothermal fields and their immediate environs. Hybridism might be a threat in some populations abutting urban areas, e.g., Taupo. Certainly hybrids are locally common in the Rotorua area, reflecting perhaps, the extensive volcanic and human-induced disturbance of that region.
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
tenuicaulis: Thin stalk

WHERE TO BUY

Occasionally sold in garden centres - usually under the name Kunzea ericoides var. microflora. In particular an off-pink colour variant (cv. cherise) is often sold.

TAXONOMIC NOTES

Kunzea tenuicaulis was described at the rank of species by de Lange (2014). This species is probably the same as the earlier named Kunzea ericoides var. microflora - but the type of that variety was based on cultivated material, whose provenance is ambiguous (de Lange 2014). Also the type collection of that variety is in poor condition, and as the protologue describing that variety at odds with subsequent interpretations of where the garden plants really came from de Lange (2014) preferred to start afresh at the rank of species with a new unambiguous, wild collected type specimen. Kunzea ericoides var. microflora is therefore a heterotypic synonym of K. tenuicaulis. Genetically Kunzea tenuicaulis is the most distinct of New Zealand’s 10 Kunzea species (de Lange et al. 2005; de Lange et al. 2010).

ATTRIBUTION


REFERENCES AND FURTHER READING


CITATION

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

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