

Koeleria serpentina

SYNONYMS

Trisetum serpentinum Edgar et A.P.Druce

FAMILY

Poaceae

AUTHORITY

Koeleria serpentina (Edgar et A.P.Druce) Barberá, Quintanar, Soreng et P.M.Peterson

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Grasses

CHROMOSOME NUMBER

2n = 28

CURRENT CONSERVATION STATUS

2017 | At Risk – Naturally Uncommon | Qualifiers: RR, Sp

PREVIOUS CONSERVATION STATUSES

2012 | At Risk – Naturally Uncommon | Qualifiers: RR, Sp

2009 | At Risk – Naturally Uncommon

2004 | Range Restricted

DISTRIBUTION

Endemic. North and South Islands only. In the North Island known only from the Surville Cliffs, North Cape. In the South Island confined to the ultramafic mineral belt of DUrville Island, Mt Dun, and the Red Hills.

HABITAT

Confined to Ultramafic soils and rock exposures where it usually grows on open ground or mixed in with other short grasses. Occasionally on cliff faces.




Ghost Creek, Takaka Valley, Kahurangi National Park. Photographer: Simon Walls, Date taken: 12/04/2005, Licence: CC BY-NC.



Panicle, Red Hills Nelson. Photographer: Marley Ford, Date taken: 08/01/2023, Licence: CC BY.

DETAILED DESCRIPTION

Dark green, red-green to red, diffuse, tufted grass up to 800 mm tall. **Leaves** narrow, inrolled, overtopped by narrow to somewhat lax, purplish to maroon panicles. branching extravaginal. **Leaf-sheath** 10–40 mm, softly pubescent, with longer scattered hairs on sheaths of culm-leaves, often also on margins. **Ligule** 0.4–0.8 mm, erose, minutely ciliate. **Leaf-blade** 20–160 mm, inrolled, rarely not, < 1 mm diameter, up to 2 mm wide, often with scattered long hairs, undersides smooth or with fine prickle-teeth on ribs; margins minutely prickle-toothed, often with scattered long hairs. **Culm** 80–460 mm long, slender, internodes with long fine hairs above nodes, and with a small band of shorter hairs below nodes, uppermost node consistently glabrous. **Panicle** 20–100 × 5–20 mm, narrow-lanceolate to elliptic, sometimes open, with visible rachis and short ascending to spreading branches bearing clustered spikelets; rachises and branches with moderately dense, fine prickle-teeth and often a few longer hairs at lower nodes of rachis and at base of panicle. **Spikelets** 4–6.5 mm, purple or maroon. **Glumes** unequal, with sparse short prickle-teeth on keel; lower  $\frac{3}{4}$ length of upper, oblong-lanceolate, upper < to more or less equivalent in length of spikelet, elliptic-lanceolate; margins with very few minute prickle-teeth near acute to acuminate apex. **Lemma** 3.0–4.5 mm, bicuspid, minutely-papillose; awn 3–4 mm, usually recurved, insertion point in upper quarter of lemma. **Palea** minutely prickle-toothed on keels and margins. **Callus hairs** 0.2 mm. **Rachilla** hairs to 0.8 mm. **Lodicules** to 1 mm, glabrous. **Anthers** to 1.5 mm long. **Ovary** to 0.8 mm; stigma-styles to 1 mm. **Seed** not seen.

MANAAKI WHENUA ONLINE INTERACTIVE KEY

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

SIMILAR TAXA

Closest to *T. lasiorhachis* (Hack.) Edgar with which it shares distinctly hairy culms and leaves. However, as the name implies *T. serpentinum* is endemic to ultramafic substrates. A habitat from which *T. lasiorhachis* is absent. *Trisetum serpentinum* is characteristically reddish-green, *T. lasiorhachis* green to grey-green. In *T. serpentinum* the lemma is 3.0–4.5 mm long, the awns \leq the lemma; the leaf-blade inrolled, < 1 mm diameter, only very rarely flat and up to 2 mm wide. In *T. lasiorhachis* the lemma is 5.0–7.5 mm long; the awn is much greater than of equal to the lemma; the leaf-blade is usually flat (rarely inrolled), and 1.3–3.3 mm wide. *Trisetum serpentinum* is known from the North and South Islands, *T. lasiorhachis* only from the North Island.

FLOWERING

October–February

FRUITING

December–May

PROPAGATION TECHNIQUE

Easy from fresh seed and rooted pieces but difficult to maintain in cultivation. Does best in a pot.

THREATS

Not directly threatened, however, it is confined to ultramafic rock and soils, and in some of these locations it can be very uncommon.

ETYMOLOGY

koeleria: Named after George Ludwig Koeler (1765–1807), 18th century German botanist. Author of a work on the grasses of Germany and France, *Descriptio graminum in Gallia et Germania* (1802).

WHERE TO BUY

Not commercially available

ATTRIBUTION

Description modified from Edgar and Connor (2000).

REFERENCES AND FURTHER READING

Edgar E, Connor HE. 2000. Flora of New Zealand. Vol. V. Grasses. Manaaki Whenua Press, Christchurch, NZ. 650 p.

MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/koeleria-serpentina/>