

Anthoxanthum redolens

COMMON NAME

holy grass, kāretu

SYNONYMS

Holcus redolens Vahl, *Avena redolens* (Vahl) Pers., *Anthoxanthum redolens* (Vahl) D.Royen, *Hierochloe antarctica* var. *redolens* (Vahl) Raspail, *Holcus redolens* R.Br., *Torresia redolens* Roem. et Schult., *Hierachloe banksiana* Endl., *Hierochloe redolens* (Vahl) Roem. et Schult.

FAMILY

Poaceae

AUTHORITY

Anthoxanthum redolens P.Royen

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

No

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Grasses

NVS CODE

HIERED

CHROMOSOME NUMBER

2n = 84

CURRENT CONSERVATION STATUS

2017 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2012 | Not Threatened

2009 | Not Threatened

2004 | Not Threatened

BRIEF DESCRIPTION

Large scented grass with broad leaves.

DISTRIBUTION

Indigenous. Throughout North (uncommon north of Rotorua), South and Chatham Islands. Also on the Three Kings Islands. Indigenous to Australia, New Guinea and South America.

HABITAT

In tussock grassland.

WETLAND PLANT INDICATOR STATUS RATING

FAC: Facultative

Commonly occurs as either a hydrophyte or non-hydrophyte (non-wetlands).





Tongariro, January. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.



Hierochloe redolens. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.

DETAILED DESCRIPTION

Robust, lax tufts. Leaf-sheath glabrous, ± striate, lower ± purplish. **Ligule** 2–3 mm, chartaceous, ± irregularly rounded. **Leaf-blade** to 70 cm × 8–12 mm, abaxially ± glabrous, adaxially scabrid on prominent ribs; margins glabrous or prickly-toothed. **Culm** to 130 cm, internodes glabrous. **Panicle** 20–30 cm, erect, nodding above, and lower branches also nodding; branches binate at nodes, very slender, naked for ½ to ¾ length, spikelets crowded distally; pedicels 0.5–2 mm, villous. **Glumes** unequal, membranous, scarious, glabrous, ovate, acute, keeled, 3-nerved; lower 6–7 mm, mostly ≥ lower floret, upper 7–8 mm, > second floret. **Florets** pale straw-coloured.  florets: lemma 5–6.5 mm, oblong-ovate, lobes c. 1 mm, chartaceous with scarious tips, long hairs on keel below, minutely scabrid above, margins ciliate with soft, silvery hairs; awns 3.5–6 mm, slender, ± straight, insertion 3–4 mm above base; palea 4–5.5 mm, membranous, irregularly finely scabrid on keels; lodicules 1–1.6 mm, ± ovate, lobed, acute, glabrous; callus hairs to 1.25 mm; anthers 2–3 mm.  floret: lemma 4.5–6 mm, narrow-ovate, glabrous, apex minutely hairy, muticous to subapically mucronate 0.25–0.5 mm; palea 4–5.5 mm, ovate-lanceolate, keel 1–(2) finely irregularly ciliate; lodicules 0.75–1 mm, ovate-oblong, abruptly tapering, often lateral lobed, glabrous; anthers 1–1.5 mm; gynoecium: ovary c. 1 mm, stigma-styles 4–5 mm; caryopsis c. 2 mm, embryo 0.5 mm, hilum 0.75 mm.

MANAAKI WHENUA ONLINE INTERACTIVE KEY

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

SIMILAR TAXA

Distinguished from other native members of the genus by the clearly awned florets, which on the males florets are inserted near lemma base and the awns of upper male floret being straight.

Can be superficially similar to the exotic tall fescue (*Lolium arundinaceum*) but can be readily separated by the scented leaves and obviously awned florets.

LIFE CYCLE

Florets are water and wind dispersed (Thorsen et al., 2009).

ETYMOLOGY

anthoxanthum: From the Greek 'anthos' meaning flower and 'xanthum' = yellow, referring to the colour of the panicles.

redolens: Sweet-scented

TAXONOMIC NOTES

Hierochloe brunonis Hook.f. and *H. fusca* Zotov are probably better regarded as part of *A. redolens*.

ATTRIBUTION

Fact sheet prepared by Marley Ford (21 April 2021). Habitat, Features and similar taxa sections modified from Edgar & Connor (2000).

REFERENCES AND FURTHER READING

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

Ford M. 2023. The return of Holy Grass, a century unrecorded in the North. *Trilepidea* 228: 10–12.

Johnson AT, Smith HA. 1986. Plant Names Simplified: Their pronunciation, derivation and meaning. Landsman Bookshop Ltd, Buckenhill, UK.

Thorsen MJ, Dickinson KJM, Seddon PJ. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285–309.

MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/anthoxanthum-redolens/>