



## *Simplicia felix*

### Common Name(s):

Simplicia

### Distribution:

Endemic. New Zealand: North and South Islands from near Taihape to the Wairarapa with one South Island occurrence in North Otago

### Habitat:

A species of eastern lowland to lower montane, often riparian, seasonally dry (drought prone) Podocarp forests overlying base-rich substrates such as limestone, calcareous mudstone and siltstone. It has been found once outside these habitats in North Otago growing within a limestone overhang.

### Features\*:

Plants forming flaccid, diffuse, often much interconnected, sprawling patches up to 1 m across. Culms 0.25–0.65 m long, green to dark brown when fresh, wiry, initially decumbent, becoming ascendant with the apices weakly erect, culm internodes 5–8, elongated, glabrous; internodes longer than subtending leaf-sheaths. Culm-nodes conspicuously swollen when fresh, dark green-brown to brown-black 0.15–0.25 mm long, rooting freely on contact with ground. Basal leaf-sheaths dull dark brown, membranous, strongly ribbed, usually abaxially pubescent (sometimes glabrous) on ribs, hairs 0.10–0.15 mm long, patent to retrorse; mid stem and upper leaf-sheaths pale-green to green, membranous, strongly ribbed, glabrous (rarely abaxially ribs finely pubescent toward sheath apex). Ligule 2.0–2.6 mm, membranous, lanceolate, apex entire, or deeply lacerate; glabrous, or with both surfaces hairy; hairs 0.15–0.18 mm long. Leaf-blade (20–)40(–60) × (1.0–)1.2–2.4(–3.0) mm, yellow-green to dark green, flat, narrow linear-lanceolate, finely ribbed, ribs smooth (sometimes minutely scabrid); margins minutely scabrid. Panicle 20–40(–80) mm long, linear to ± pyramidal, usually with basal branch or branch pair reflexed (often unevenly so); rachis glabrous (sometimes bearing a few minute prickle-teeth), branches 20–30 mm long, scabrid, binate, initially contracted but as inflorescences mature, spreading to reflexed, devoid of spikelets in lower half to two-thirds; pedicels appressed to branchlets, 0.20–0.25(0.30) mm long, finely pubescent. Spikelets 2.7–3.0 mm, 1-flowered, lanceolate, light green. Glumes pale green (± hyaline), glabrous, ovatelanceolate to ovate, acute, 1-nerved, nerve sometimes extending beyond apex as a minute mucro, margins initially entire, becoming erose near apex, very sparsely ciliate in upper third; lower glume 0.5–0.6 mm, upper glume 0.75–0.8(–0.9) mm. Lemma 2.0–2.8(–3.0) mm, light green to cream, ovate-lanceolate to lanceolate, acute, apex mucronate (mucro 0.1 mm long), 5-nerved, the inner 3 nerves conspicuous, the outer less prominent; nerves bearing evenly spaced minute (0.02–0.03 mm long), antrorse, appressed prickle-teeth, interstices usually densely (sometimes sparsely) covered with minute antrorse prickle-teeth. Palea 2.0–2.8 mm, lanceolate, green to purple-green, 1–2-nerved, nerves bearing evenly spaced minute prickle (0.02–0.03 mm long) teeth, interstices usually glabrous, sometimes sparsely covered with minute prickle-teeth. Rachilla prolongation 0.8 mm, filiform, hyaline, glabrous except for sparse cilia cresting prolongation apex. Stamens 3. Filaments 0.6–0.9 mm long, hyaline. Anthers 1.0–1.2 mm, yellow. Ovary narrowly ovoid to weakly trigonous 1.0 mm long, pale green, glabrous; styles apical, 1.0–1.2 mm, hyaline; stigmas plumose, white. Caryopsis 1.2–1.4(–1.5) mm long, laterally compressed, pale orange to orange-brown when mature.

### Flowering:

December - February

### Fruiting:

January - April

### Threats:

*Simplicia felix* occupies a very small area of only a few square metres wherever it occurs. It appears to have quite specific light requirements and tolerates only limited competition from other ground-cover species. The healthiest populations occur at sites where competition is reduced by grazing from cattle and sheep. While grazing apparently benefits *S. felix*, it will ultimately lead to the collapse of the forest canopy necessary for *S. felix* to survive. Collectively, *Simplicia felix* occupies <1 ha, so meeting the criteria for Threatened—Nationally Critical B2 (Townsend et al. 2008), qualified 'DP' (Data Poor) and 'RR' (Range restricted).

### \*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange (12 December 2016). Description adapted from de Lange et al. (2016).

### References and further reading:

de Lange, P.J.; Smitsen, R.D.; Rolfe, J.R.; Ogle, C.C. 2016: Systematics of *Simplicia* Kirk (Poaceae: Agrostidinae)—an endemic, threatened New Zealand grass genus. *PhytoKeys* 75: 119–144. <http://dx.doi.org/10.3897/phytokeys.75.10328>

Townsend A.J.; de Lange, P.J.; Norton, D.A.; Molloy, J.; Miskelly, C.; Duffy, C. 2008: New Zealand Threat Classification manual. Department of Conservation, Wellington.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=7717](http://nzpcn.org.nz/flora_details.asp?ID=7717)



**Caption:** *Simplicia felix* growing sparsely through a ground cover of *Australina pusilla*. Feb 2014.

**Photographer:** Jeremy Rolfe