



## *Simplicia laxa*

### Common Name(s):

Simplicia

### Current Threat Status (2012):

Threatened - Nationally Critical

### Distribution:

Endemic. South Island - Otago with one site at Honeycomb Cave, Karamea (de Lange et al. 2016).

### Habitat:

*Simplicia laxa* has been recorded from coastal to subalpine situations on base-rich rocks such as limestone, schist and basalt. All current populations grow on rock ledges, within crevices, overhangs and at cave entrances. It is suspected that the current habitats of *Simplicia laxa* are refugia, and that the species was once found in forested habitats (see de Lange et al. 2016).

### Features\*:

Plants trailing forming thick sprawling mats or diffuse interconnected patches up to 0.6 m across. Culms 0.40–0.80 m long, green to pale green when fresh, wiry, decumbent, with the apices weakly erect, culm internodes 4–8, elongated, sparsely (sometimes densely) hairy, or glabrous; hairs weakly flexuous, patent up 0.18 mm long; internodes usually shorter than subtending leaf-sheaths. Culm-nodes conspicuously swollen when fresh, maroon-black to black (0.13–)0.18–0.30 mm long, rooting freely on contact with ground. Basal leaf-sheaths glossy light brown to amber, membranous, ribbed, abaxially (often copiously) pubescent on ribs (and usually on interstices), hairs 0.20–0.25(–0.30) mm long, patent to retrorse; mid stem and upper leaf-sheaths pale-green to green, membranous, ribbed, abaxially pubescent on ribs (and sometimes on interstices), hairs copious, 0.35–0.40 mm long patent, mostly straight, sometimes curved or weakly flexuous. Ligule 2.8–3.5(–10) mm, membranous, lanceolate, apex erose to very deeply lacerate; abaxially sparsely to copiously hairy; hairs 0.20–0.24 mm long. Leaf-blade (100–)160(–200) × (2.8–)3.0(–3.6) mm, green to dark green, flat, linear-lanceolate, finely ribbed; adaxial ribs finely pubescent, abaxially glabrous (sometimes sparsely hairy at leaf base; margins ± smooth, sometimes irregularly finely scabrid and sparsely hairy. Panicle (40–)100(–150) mm long, linear to ± pyramidal, usually with basal branch or branch pair reflexed (often unevenly so); rachis glabrous, branches (20–)40(–60) mm long, finely, antrorsely hairy (hairs 0.20–0.25 mm long), binate, initially contracted but as inflorescences mature, spreading to reflexed, devoid of spikelets in lower half; pedicels appressed to branchlets, 1.00–1.06 mm long, finely pubescent. Spikelets 2.8–3.2 mm, 1-flowered, lanceolate, light green. Glumes pale green (± hyaline), glabrous, broadly ovate-lanceolate to ovate, acute, 1-nerved, nerve extending beyond apex as a minute mucro, lower glume margins entire (sometimes with apex erose), ciliate towards apex, upper glume margins usually erose (sometimes subentire), ciliate; lower glume 0.5–0.8 mm, upper glume 0.75–1.0(–1.2) mm. Lemma 2.8–3.2(–3.4) mm, light green to grey-green (sometimes purple-green), ± evenly, densely pubescent, lanceolate, acute, apex mucronate (mucro 0.10–0.25 mm long), 3(–5)-nerved (nerves obscured by hairs); lemma hairs antrorse appressed, sericeous, 0.12–0.13 mm long. Palea 2.4–2.8 mm, lanceolate, pale green to green, pubescent, 1–2-nerved, (nerves obscured by hairs). Rachilla prolongation 1.25–1.30 mm, narrowly lanceolate, hyaline, margins minutely ciliate. Stamens 3. Filaments 0.20–0.25 mm long, hyaline. Anthers 0.30–0.45 mm, yellow. Ovary narrowly ovoid to weakly trigonous 1.0–1.25 mm long, dark green, ± glabrous (basal portion sometimes minutely ciliate); styles apical, 1.10–1.25 mm, hyaline; stigmas plumose, white. Caryopsis 1.4–1.5 mm long, laterally compressed, orange-brown when mature.

### Flowering:

November–March

### Fruiting:

January–May

### Threats:

Currently known from < 15 populations. Several of these are in decline, and very few are substantial in size. Many occur on private land without direct conservation management or in places subject to ongoing habitat deterioration through invasive weed pressure and habitat loss (for more information see de Lange et al. 2016).

### \*Attribution:

Fact Sheet Prepared by P.J. de Lange (1 November 2009). Description from de Lange et al. (2016) For more information see Kirk (1897), Zotov (1971), Edgar & Connor (2000), and de Lange et al (2010).

### References and further reading:

de Lange, P.J. 2016: When labels get mixed – lessons to be learned from a study of the Thomas Kirk ‘herbarium’ and historical *Simplicia* collections. *Trilepidea* 152: 1–11.

de Lange, P.J.; Heenan, P.B.; Norton, D.A.; Rolfe, J.R.; Sawyer, J.W.D. 2010: Threatened Plants of New Zealand. Canterbury University Press, Christchurch.

de Lange, P.J.; Rolfe, J.R.; Silbery, T. 2014: Seen but unseen - rediscovering *Simplicia laxa* in the southern North Island. *Trilepidea* 124: 5–9.

de Lange, P.J.; Smissen, 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>

Edgar, E.; Connor, H.E. 2000: Flora of New Zealand. Vol. V. Grasses. Christchurch, Manaaki Whenua Press.

Kirk, T. 1897: Description of a New Genus of Gramineae. *Transactions of the New Zealand Institute* 29: 497.

Ogle, C. C. 2010: Rediscovery of a rare species of grass in the genus *Simplicia* in the North Island. *Wellington Botanical Society Bulletin* 52: 38–46.

Smissen, R.D.; de Lange, P.J.; Thorsen, M.J.; Ogle, C.C. 2011. Species delimitation and conservation genetics in the rare New Zealand endemic grass genus *Simplicia*. *New Zealand Journal of Botany* 49: 187–199.

Zotov, V. D. 1971. *Simplicia* T. Kirk (Gramineae). *New Zealand Journal of Botany* 9: 539–544.



**Caption:** Nga, Waitaki, The Knolds  
**Photographer:** P.N. Johnson