

Simplicia laxa

COMMON NAME

simplicia

SYNONYMS

Simplicia laxa Kirk var. *laxa*

FAMILY

Poaceae

AUTHORITY

Simplicia laxa Kirk

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

Yes

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Grasses

NVS CODE

SIMLAX

CHROMOSOME NUMBER

$2n = 28$

CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Critical | Qualifiers: CD, RR, Sp

PREVIOUS CONSERVATION STATUSES

2012 | Threatened – Nationally Critical | Qualifiers: CD, Sp

2009 | Threatened – Nationally Critical | Qualifiers: CD, Sp

2004 | Threatened – Nationally Endangered

BRIEF DESCRIPTION

Feeble, inconspicuous mat-forming grass of shaded habitats. Plants rooting at nodes. Leaf sheaths hairy. Inflorescences inconspicuous, delicate, pyramidal; flowering branches hairy, basal branches usually reflexed and spreading. Spikelets one-flowered, bearing prominent hairy lemma and much reduced, minute scale-like glumes.

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).



Spikelet showing glume and utricule. Wairarapa. Photographer: Jeremy R. Rolfe, Date taken: 27/03/2016, Licence: CC BY.

DETAILED DESCRIPTION

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.

MANAAKI WHENUA ONLINE INTERACTIVE KEY

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

SIMILAR TAXA

Allied to *Simplicia felix* from which it is distinguished by the mid-stem and upper stem leaf sheaths finely ribbed and copiously hairy; by the hairy adaxial leaf-blade ribs; by the antrorsely hairy inflorescence branches, longer pedicels 1.00–1.06 mm long and pubescent lemma (see de Lange et al. 2016). *Simplicia felix* and *S. laxa* differ from *S. buchananii* by the decumbent rather than tufted growth habit, spreading to weakly ascendent rather than erect culms, by the nodes which root freely (plants thus forming interconnected widely sprawling clonal patches) and by the linear to pyramidal, binate inflorescences, whose basal branch or branches are reflexed, and devoid of spikelets from lower half or so (see de Lange et al. 2016).

FLOWERING

November–March

FLOWER COLOURS

Green

FRUITING

January–May

PROPAGATION TECHNIQUE

Easy from rooted pieces. Can be grown from node cuttings. Often difficult to maintain in cultivation, and short-lived. It does best in a dry shady site, and should be planted in a free draining, lime-enriched soil.

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).

ETYMOLOGY

laxa: Slack, loose

TAXONOMIC NOTES.

North Island *Simplicia* occurrences discussed by Ogle (2010) and Smissen et al. (2011) together with one North Otago population now belong to a third species *S. felix* (de Lange et al. 2016). As far as is known *Simplicia laxa* is not present in the North Island, the specimens Kirk collected from the Wairarapa belong to *S. felix* (de Lange 2016; de Lange et al. 2016).

ATTRIBUTION

Fact Sheet prepared for NZPCN 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 PJ. 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 PJ, Heenan PB, Norton DA, Rolfe JR, Sawyer JWD. 2010. Threatened Plants of New Zealand. Canterbury University Press, Christchurch. 471 p.
- de Lange PJ, Rolfe JR, Silbery T. 2014. Seen but unseen – rediscovering *Simplicia laxa* in the southern North Island. *Trilepidea* 124: 5–9.
- de Lange PJ, Smissen RD, Rolfe JR, Ogle CC. 2016. Systematics of *Simplicia* Kirk (Poaceae: Agrostidinae)—an endemic, threatened New Zealand grass genus. *PhytoKeys* 75: 119–144.
<https://doi.org/10.3897/phytokeys.75.10328>
- Edgar E, Connor HE. 2000. Flora of New Zealand. Vol. V. Grasses. Manaaki Whenua Press, Christchurch, NZ. 650 p.
- Kirk T. 1897. Description of a New Genus of Gramineae. *Transactions of the New Zealand Institute* 29: 497.
- Ogle CC. 2010. Rediscovery of a rare species of grass in the genus *Simplicia* in the North Island. *Wellington Botanical Society Bulletin* 52: 38–46.
- Smissen RD, de Lange PJ, Thorsen MJ, Ogle CC. 2011. Species delimitation and conservation genetics in the rare New Zealand endemic grass genus *Simplicia*. *New Zealand Journal of Botany* 49: 187–199.
- Zotov VD. 1971. *Simplicia* T. Kirk (Gramineae). *New Zealand Journal of Botany* 9: 539–544.

NZPCN FACT SHEET CITATION

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MORE INFORMATION

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