

Manoao colensoi

COMMON NAME

silver pine, manoao

SYNONYMS

Dacrydium colensoi Hook., *Lagarostrobos colensoi* (Hook.) Quinn, *Dacrydium westlandicum* Hook.f., *Lepidothamnus colensoi* (Hook.) de Laub.

FAMILY

Podocarpaceae

AUTHORITY

Manoao colensoi (Hook.) Molloy

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

Yes

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Trees & Shrubs – Gymnosperms

NVS CODE

MANCOL

CHROMOSOME NUMBER

$2n = 20$

CURRENT CONSERVATION STATUS

2017 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2012 | Not Threatened

2009 | Not Threatened

2004 | Not Threatened

DISTRIBUTION

Endemic. New Zealand: North Island (from Te Pahi south; uncommon in the north, found mainly around the mountains of the Central Volcanic Plateau) and South Island (mainly westerly).

HABITAT

Lowland to montane. Typically associated with older, poorly drained surfaces with leached infertile soils, and in acid swamps and peats, notably the pakihi lands of western South Island.

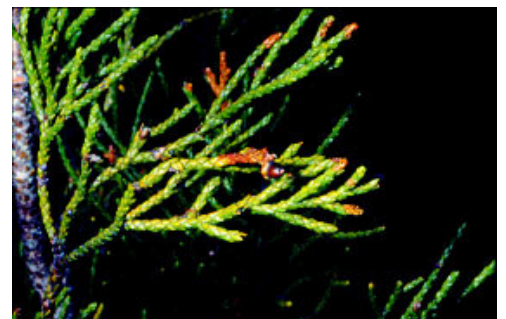
WETLAND PLANT INDICATOR STATUS RATING

FACW: Facultative Wetland

Usually is a hydrophyte but occasionally found in uplands (non-wetlands).



Nov 2006. Photographer: Geoff Davidson, Licence: CC BY-NC.



Whakapapa, Ruapehu, May. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.

DETAILED DESCRIPTION

Gynodioecious, evergreen trees up to 20 m tall and 1 m diameter, with uniformly erect stems, branches, and branchlets, and strong sucker shoots from horizontal underground stems. **Bark** on mature trees forming thick irregular scales and vertical scale complexes, shedding slowly, leaving behind distinct hammer marks and wave patterns; outer surface of scales silvery-grey to grey-brown, undersurface crimson, glistening with fresh resin, hard, with silvery-grey, weathered, often scalloped margins; shed bark forming a small raised mound of litter filled with fine roots at base of tree. **Roots of mature trees** oblique, peg-like, deeply descending; mycorrhizal nodules simple or in extensive branched complexes, epidermal hairs absent. **Roots and underground stems of shrubs** and sucker shoots forming dense red-brown entanglements; aerenchyma universally present in roots and underground stems under anaerobic conditions. **Cotyledons** c. 12.0 × 2.0 mm, submembranous, spreading horizontally, epistomatic. **Primary axis** of seedlings and juveniles erect. **Leaves** polymorphic; on adult branchlets c. 3.0 × 1.5 mm, rhomboid, scale-like, keeled, closely imbricate and whipcord-like, decurrent at base, spirally arranged, amphistomatic; florin ring distinct though sunken; marginal frill distinct, continuous; older leaves very persistent, brown, semi-woody. Leaves on seedlings at first 5.0–10.0 mm long, subulate, bristle-like, spreading, decurrent at base, spirally arranged, amphistomatic; successive leaves initially longer, becoming progressively shorter, bilaterally flattened, falcate to triangular, graded in size, and secondarily 3-ranked and spiralled; ultimately scale-like, keeled, imbricate. **Male cones** solitary or rarely paired, terminal on foliage branchlets, sessile, with up to 12 sporophylls each with 2 sporangia; pollen with a thin-walled, finely tuberculate cappa and 2 prominent sacci. **Female cones** solitary, terminal on foliage branchlets, erect by curvature of cone axis, consisting of 2–6 spoon-shaped ± spreading fertile bracts separated by short internodes, sometimes with a sterile cap; ovules borne in a median position on adaxial surface of fertile bract, initially obliquely inclined towards cone axis and partially inverted, becoming erect at maturity; bracts in distal region of cone sterile, reduced in size. **Seeds** 1–5, erect, crowded if more than one; c. 3.5 × 2.5 mm, narrowly oblong, rounded in cross-section, with a small rounded recurved micropyle; seed coat purple to black with a glaucous sheen, finely striated; epimatium swollen, fleshy, greenish-yellow, ± smooth-margined, forming a split keeled asymmetrical sheath around base of seed.

SIMILAR TAXA

Distinguished from Huon pine (*Lagarostrobus franklinii* (Tasmania only)) and other New Zealand Podocarpaceae by the combination of having a dimorphic growth habit (juvenile and adult forms), being a shrub to small tree, imbricate scale-like mature foliage leaves have a lax female cone comprised of several spoon-shaped fertile bracts, oblique partially inverted ovules, resiniferous bark, mycorrhizal root nodules lacking epidermal hairs, underground stems, oblong seed rounded in cross-section, and swollen fleshy epimatium

FLOWERING

Throughout the year

FLOWER COLOURS

No flowers

FRUITING

Throughout the year

PROPAGATION TECHNIQUE

Easily grown from seed. Can also be grown from hardwood cuttings. A slow growing, attractive small tree, which is tolerant of a wide range of growing conditions.

ETYMOLOGY

manaoa: Derived from the Maori name for the only species in this genus.

colensoi: Named after William Colenso (7 November 1811 – 10 February 1899) who was a Cornish Christian missionary to New Zealand, and also a printer, botanist, explorer and politician.

TAXONOMIC NOTES

Manaoa remains a controversial genus, many botanists retain it in *Lagarostrobus* and notably de Laubenfels (2015) rather unconvincingly placed it in *Lepidothamnus*. In New Zealand our preference is to retain it as a genus distinct from these.

ATTRIBUTION

Prepared by P.J. de Lange for NZPCN, 3 February 2006. Description from Molloy (1995).

REFERENCES AND FURTHER READING

de Laubenfels DJ. 2015. Miscellaneous notes in coniferae. *Novon* 24(2): 130–132.

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Molloy BPJ. 1995. *Manoao* (Podocarpaceae), a new monotypic conifer genus endemic to New Zealand. *New Zealand Journal of Botany* 33(2): 183–201. <https://doi.org/10.1080/0028825X.1995.10410483>.

Moorfield JC. 2005. *Te aka : Māori-English, English-Māori dictionary and index*. Pearson Longman, Auckland, NZ. 357 p.

NZPCN FACT SHEET CITATION

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MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/manoao-colensoi/>