Leptospermum hoipolloi f. hoipolloi

COMMON NAMES
kahikatoa / mānuka

BIOSTATUS
Native – Endemic taxon

CURRENT CONSERVATION STATUS
2017 | Threatened – Nationally Vulnerable | Qualifiers: De, DPS, DPT

CATEGORY
Vascular

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

SIMPLIFIED DESCRIPTION
Distinguished from *Leptospermum scoparium* s. str. with which it often grows by the sericeous, narrower and longer (up to 30 × 6 mm) lanceolate to elliptic lanceolate leaves, larger (up to 30 mm in diameter) flowers (these white, pink-tinged, pink-streaked or red); pink, red, amber or brown (sometimes yellow-green) style up to 4.5 mm long at anthesis, elongating to 5.2 mm after anthesis; stigma flat, pink, red, dark amber-brown, up to 1.3 mm in diameter at anthesis, expanding to 1.6 mm following anthesis; capsules up to 15.1 × 14.1 mm (unopened) and 16.6 × 18.0 mm (opened).

FLOWER COLOURS
White, Red/Pink

DETAILED DESCRIPTION
Growth habit — trees or shrubs (1-)3(-10) m tall, sometimes much reduced in extreme acid wetlands, then attaining heights of 100 mm or less. Trunk — usually unbranched at base, up to 0.3 m d.b.h., usually devoid of branches in lower third to half. Bark — usually loosely attached, chartaceous to semi-coriaceous, flaking readily, shards irregular, often with sinuous margins, adaxially charcoal grey or grey, abaxially reddish. Branches — 3 or more, erect, semi-erect or widely spreading, young stems copiously covered in (0.20-0.35-)0.40(-0.52) mm long, white, straight to slightly flexuous, sericeous, antrorse-appressed hairs, usually but not always glabrescent with age. Vegetative bud scales — 3-8, mostly shedding soon after vegetative growth commences, rarely with a few persistent, (0.4-)0.8-1.0(-1.2) × (0.3-)0.6-0.7(-1.0) mm, amber to red-brown, scarious, oblong to ovoid, inner surface smooth, glossy, outer with frayed, lacerate margins or entire, basal portion densely invested in white antrorse-appressed to suberect sericeous hairs up to 0.1 mm long. Leaves — crowded along branchlets, spicy-scented when crushed, divergent to spreading, 5.0-)9.6-17.5(-22.0) × (2.2-)2.8(-3.1) mm, dull to semi-glossy green, dark green, sometimes glaucescent; lamina lanceolate, elliptic lanceolate, flat to weakly concave, shortly acute or sometimes acuminate, rarely cuspidate, acumen if present up to 1.2 mm long, bases cuneate to attentuate, margins minutely denticulate; surfaces on young growth sericeous near base and along midrib, and along leaf margin, maturing ± glabrescent with hairs ± persisting on basal portion of leaf and along portions of leaf margin (especially toward base); oil glands numerous, more evident when dry. Perules — 4-6, shedding at bud burst, (0.4-)0.6-0.8(-1.2) × (0.4-)0.6-0.8(-1.0) mm, glabrous, hyaline, amber to pale red-brown, scarious, orbicular, margins usually entire or sometimes

Mature flower bud on brachyblast prior to anthesis, Motatau, Northland. Photographer: Peter J de Lange, Date taken: 13/01/2022, Licence: CC BY.

Flower, top view, Ngawha Springs, Kaikohe, Northland. Photographer: Peter J de Lange, Date taken: 13/01/2022, Licence: CC BY.

frayed, inner surface smooth, glossy. Inflorescence — monadic on short axillary brachyblasts or on long, 300 mm long or more, terminal shoots. Prophylls — caducous, 2, 0.1-0.2 mm long, oblong, midrib scarcely developed, green to red-green when fresh, tan when dry, abaxial surface densely invested in white sericeous hairs. Pedicels — sessile or subsessile, 0.1-0.4 mm long at anthesis, sometimes elongating to 3.6 mm after anthesis, terete, sparsely invested with antrorse-appressed, sericeous white hairs. Flower buds — clavate, tholiform with calyx lobes not meeting; living flowers when fully expanded (18-)20(-24) mm in diameter. Hypanthium — (4.5-)6.4(-8.0) wide, by (2.3-)3.3(-4.2) mm, yellow-green, green, or pale honey-brown, obconic, obconic-funnelform, terminating in a slightly thicker rim bearing five calyx lobes; surface smooth (wrinkling in dry specimens) finely glandular punctate, glabrous. Calyx lobes 5, spreading, 2.6-2.8 × 2.6-2.8 mm, caducous, broadly deltoid to ovate, with rounded apices, glabrous or very rarely with margins sparsely ciliate, oil glands colourless. Receptacle initially pale pink (sometimes pale green / yellow green), colour usually intensifying to dark red at anthesis. Petals — 5(-6), spreading, 6.7-7.3(-8.3) × 5.2-7.4 mm, white, pink-tinged, pink or very rarely red, orbicular, apex obtuse to rotund, margins finely crimped, oil glands not evident. Stamens — (18-)28(-36-40), arranged in 1(-2) whorls adnate to receptacular rim, filaments white, pink- or more rarely green-tinged (usually near base), or completely pink or carmine. Antipetalous stamens 3-4, antisepalous 4(-6). Outermost antipetalous stamens erect or weakly incurved, sometimes petalloid, on filaments (1.0-)2.3-2.8 mm long, occasional inner whorl of 2 stamens present, these erect or incurved, 1.0-1.3 mm long, positioned at base of the outermost antipetalous pair. Antisepalous stamens usually shorter than antipetalous, on filaments 1.0-1.8 mm long, incurved, erect or in mixtures of both. Anthers dorsifixed 0.3-0.5 × 0.12-0.16 mm, ovoid, latrorse, pale pink, red or dark red. Pollen white to cream. Anther connective gland 0.26 mm long, amber or pale pink, narrowly obovoid. Ovary — 5(-7)-locular, each loculus with 80 or more ovules, set in 8 rows on each placental lobe. Style (2.6-)3.8-4.5 mm long at anthesis, elongating to 5.2 mm after anthesis, pink, red, amber or brown (very rarely yellow green); stigma (0.60-)0.70-1.3 mm in diameter at anthesis, expanding to 1.6 mm following anthesis, flat, pink, red, dark amber brown, at anthesis, finely papillate rugulose. Fruits — persistent, woody, (8.3-)10.3(-14.4) × (8.2-)12.2 mm (unopened), (9.2-)12.3(-16.6) × (9.3-)15.4 mm (opened), pale brown grey to grey, broadly obconic, turbinate, (sometimes hemispherical / globose), centre often with persistent style remnant, valves 5(-7), exserted as a dome, indented at centre, ± symmetrical with base. Valves opening on dead branches or following fire. Seeds — 2.4-2.6(-2.8) × 0.22-0.26 mm, linear, linear-cuneiform, curved, flexuous to sigmoid, laterally compressed or terete, 2-4-angled, apex truncate or acute, testa dull or glossy, orange-brown, glabrous, longitudinally striate.

SIMILAR TAXA

Throughout its range *Leptospermum hoipolloi* f. *hoipolloi* is sympatric with *L. scoparium* s. str. From that species *L. hoipolloi* is easily distinguished by the consistently longer, narrower, lanceolate leaves, whereas *L. scoparium* s. str. has broadly ovate, oval to orbicular, or broadly elliptic, ovate-elliptic leaves that are sharply acuminate. The mature leaves of *L. hoipolloi* f. *hoipolloi* are glabrescent though they usually retain some indumentum on their margins (especially toward the base); however, in *L. scoparium* s. str. the mature leaves tend to be completely glabrous; hairs if present are usually on the basal adaxial surface and then only sparsely so. *Leptospermum hoipolloi* f. *hoipolloi* has slightly larger flowers than *L. scoparium* (up to 24 mm diameter c.f. up to 20 mm in *L. scoparium*). As a rule, *L. scoparium* has white petals; however, pink-tinged and completely red petals are also known in *L. scoparium* so these are not diagnostic. Morphologically *Leptospermum hoipolloi* f. *hoipolloi* (and f. *incanum*) differs from *L. repo* by its more heavily branched growth habit and wider (2.2–3.1 mm c.f. 0.3–2.0 mm wide) lanceolate, elliptic-lanceolate, sharply acute, often distinctly acuminate leaves. When fully expanded, these are set at 60–80° rather than 85–90° to the branch axis, and due to their width, often obscure the branchlet internodes, such that the branchlets appear to be "leafier" than they really are. This contrasts with finer, more divergent leaves of *L. repo*, whose positioning exposes the branchlets internodes, imparting the impression that this species has fewer leaves than it does. The mature leaves of *Leptospermum hoipolloi* f. *hoipolloi* are also more consistently hairy, along the leaf margins, midrib and particularly near the leaf base. The leaves of *L. repo* are glabrous or nearly so. The flowers of *Leptospermum hoipolloi* f. *hoipolloi* are usually larger than those of *L. repo* (up to 24 mm diameter, as compared to 15 mm in *L. repo*), and whilst usually white, may also be pink-tinged, pink (the pink colour being more common in the northern part of the species range) or red. Another difference is that the stamen filaments of *Leptospermum hoipolloi* f. *hoipolloi* though usually white, may be pink- or more rarely green-tinged (usually near base), or completely pink or carmine. The stigma and style of *L. hoipolloi* f. *hoipolloi* mature pink, red, amber, or brown (very rarely yellow green) rather than uniformly green in *L. repo* In the northern part of its range *L. hoipolloi* f. *hoipolloi* is found growing syntopically with f. *incanum* with no apparent ecological differentiation. Morphologically both taxa are similar except that the young emergent and maturing foliage of *L. hoipolloi* f. *incanum* is densely invested in long silvery grey appressed hairs, which in extreme examples impart a greyish appearance to the plant. On coastal headlands, rock outcrops and open ground in Northland and the eastern Waikato *Leptospermum hoipolloi* f. *hoipolloi* is sympatric with, and commonly grows syntopically with *L. hoipolloi* f. *procumbens*. The key distinction between these two taxa is that *Leptospermum hoipolloi* f. *procumbens* has a decumbent growth habit with sprawling, prostrate stems (these often layering), pendulous branchlets, and distinctly silver hairy leaves. *Leptospermum tairawhitiense* differs from *L. hoipolloi* (all formae) by having short (3.0–9.0 × 1.0–2.1 mm c.f. 5.0–15.0 × 0.3–2.0 mm (in *L. repo*), 5.0–30.0 × 2.2–6.0 mm (in *L. hoipolloi*), narrowly elliptic to lanceolate, adaxially dull green to dark green, red-tinged, ±glaucescent (new growth yellow-green, red-tinged, glaucescent) leaves that arise at 70°–90° from the branchlet axis. *Leptospermum tairawhitiense* also has the smallest flower size range, 8–14 mm diameter, and the flowers are usually subcampanulate, rather than spreading at anthesis. *Leptospermum tairawhitiense*, unusually for the New Zealand members of the genus, often but not always produces root suckers, in places forming clonal patches on the flood prone river beds, alluvial terraces and slip scars this species favours. In coastal areas in North-West Nelson, notably at the base Farewell Spit and on the coastline west and south of there, plants of *Leptospermum* with a decumbent habit (see Schmid et al. 2023) are locally common growing in association with erect *L. scoparium* s.s. These plants may be referred to *L. hoipolloi*, perhaps as *L. hoipolloi* f. *procumbens* but that require further study of their behaviour in cultivation.

DISTRIBUTION

Endemic: New Zealand where it is indigenous to North Island and the north-western part of the South Island, growing from the coast to subalpine (0–900 m a.s.l.)

HABITAT

Leptospermum hoipolloi f. *hoipolloi* may be found on a range of substrates including igneous, ultramafic, sedimentary rocks, mobile sand, alluvium, peat and soils derived from these. The species is most commonly found in coastal to lowland / montane areas, especially in regenerating shrubland and gumland.

THREATS

Leptospermum hoipolloi f. *hoipolloi* was assessed by de Lange et al. (2024) as 'Not Threatened' on the basis that at the time of that threat listing (November 2022) there was no evidence that myrtle rust disease caused by the invasive rust *Austropuccinia psidii* was threatening wild populations yet (it has been found on garden plants). Until this disease is confirmed as having an impact on wild populations of *Leptospermum hoipolloi* f. *hoipolloi* is regarded as too common over its natural range and believed secure.

GENUS
Leptospermum

FAMILY
Myrtaceae

AUTHORITY
Leptospermum hoipolloi L.M.H. Schmid & de Lange f. hoipolloi

SYNONYMS
None - first published in 2023.

TAXONOMIC NOTES
There is an alternative taxonomy for *Leptospermum* in Aotearoa New Zealand based on analysis of the genetic structure of *L. scoparium* across its range. Chagné et al. (2023) used single nucleotide polymorphism (SNP) array for genotyping specimens of *L. scoparium* in natural stands around Tasmania and Aotearoa New Zealand. These analyses revealed a genetically distinct Tasmanian *L. scoparium* grouping, and eight geographic groups within Aotearoa New Zealand. The eight groups were distinguished with genotypic variation that exhibited a general north to south landscape scale pattern with additional regional genetic clusters. The authors summarised that there was little support for taxonomic revision and subdividing *L. scoparium* within Aotearoa New Zealand based on their results. In comparing recent *Leptospermum* treatments with the Chagné et al. (2023) analysis, *L. repo* (de Lange & Schmid 2021) maps as the group '*L. repo*' in Chagné et al. (2023), *L. tairawhitiense* (de Lange et al. 2023) maps as the group 'East Cape North Island' in Chagné et al. (2023), additionally there is geographic alignment between *L. hoipolloi* f. *incanum* (Schmid et al. 2023) and the group 'northern North Island subcluster #2' in Chagné et al. (2023), and between *L. hoipolloi* f. *procumbens* and the group 'northern North Island subcluster #1' in Chagné et al. (2023). The third forma in *L. hoipolloi* f. *hoipolloi* maps across five of the Chagné et al. (2023) groups - however, the vouchers used for that study were not made available to the authors of Schmid et al. (2023) for study, and notably throughout the range as mapped by Chagné et al. (2023) a both *Leptospermum scoparium* and *L. hoipolloi* are often found growing together. Further study is needed.

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

FLOWERING
Throughout the year but often peaking in late winter / early spring.

FRUITING
Present throughout the year.

ETYMOLOGY
leptospermum: Slender seed
hoipolloi: The epithet "hoipolloi" is from the Greek term for 'the many' (derived from two Greek words 'hoi' [definite article, ói in Greek] and 'polloi': οἰπολλοί) in English is usually taken to refer to 'the masses; common people' or even 'rabble'. It is used in a form of academic joke alluding to the abundance and disregard for a very common species that is now economically so important when it was once considered a weed.

REGIONAL CONSERVATION STATUSES
Auckland: 2025 | Regionally Not Threatened | Qualifiers: DPR Help
The regional threat classification system leverages off the national assessments in the NZTCS, providing information relevant for the regional context. Auckland conservation status information is sourced from the "Conservation status of vascular plant species in Tāmaki Makaurau / Auckland" Simpkins E et al. (2025) report.

REFERENCES AND FURTHER READING

Chagné D., Montanari S., Kirk C., Mitchell C., Heenan P., Koot E. 2023. Single nucleotide polymorphism analysis in *Leptospermum scoparium* (Myrtaceae) supports two highly differentiated endemic species in Aotearoa New Zealand and Australia. *Tree Genetics & Genomes, 19*: 31.

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ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange 30 August 2024. Description from Schmid et al (2023)

NZPCN FACT SHEET CITATION

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MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/leptospermum-hoipolloi-f-hoipolloi/

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