

# Pittosporum serpentinum

## COMMON NAME

kōhūhū tangihua, Surville Cliffs kōhūhū

## SYNONYMS

*Pittosporum ellipticum* subsp. *serpentinum* de Lange

## FAMILY

Pittosporaceae

## AUTHORITY

*Pittosporum serpentinum* (de Lange) de Lange

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

## CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Critical | Qualifiers: OL, RF, Sp

## PREVIOUS CONSERVATION STATUSES

2012 | Threatened – Nationally Critical | Qualifiers: OL, RF, Sp

2009 | Threatened – Nationally Endangered | Qualifiers: OL

2004 | Threatened – Nationally Endangered

## BRIEF DESCRIPTION

Low-growing shrub to 2.5m wide with rusty fuzz-covered new growth and bearing leathery leaves and hard 1cm wide capsules that split into two to show the black sticky seeds in an orange pith inhabiting the northern tip of the North Island. Leave 10-50mm long, dead leaves persist. Flowers dark.

## DISTRIBUTION

Endemic. North Island, Te Pahi, North Cape, Surville Cliffs. Confined to the 120 ha exposure of ultramafic rocks at the North Cape Scientific Reserve, Surville Cliffs.

## HABITAT

A strictly ultramafic endemic shrub preferring exposed cliff faces and associated talus slopes. Very rarely found on semi-stabilised boulder falls and talus slopes as an understorey associate of small copses dominated by another, as yet unnamed Surville Cliffs endemic, *Phyllocladus* aff. *trichomanoides*.



*Pittosporum serpentinum* specimen showing mature foliage, Surville Cliffs, North Cape Scientific Reserve. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.



*Pittosporum* shrub showing sprawling habit, Surville Cliffs, North Cape Scientific Reserve. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.

## DETAILED DESCRIPTION

Sprawling, heavily branched, semi-erect shrub up to 1.2m tall and 2.5m wide. Branches prostrate, rooting on contact with the ground; branchlets semi-erect; young branchlets densely clad in dark orange-brown, ferruginous tomentum, this fading to buff yellow and then grey as branchlets mature. Young bark purple-black, glabrate, fading to greyish-black. Leaves crowded at the tips of branches, with dead leaves long persistent; 10–50 × 12–28mm, alternate, obovate, obovate-elliptic to rhomboidal, coriaceous, apex ± emarginate, obtuse to subacute, often mucronate; base cuneate to obcordate; margin entire, markedly thickened and recurved; petioles 4–6mm long; upper leaf surface grey-green, covered in deciduous buff-yellow hairs, these fading to greyish-white with age; lower surface densely clad in a persistent dark-orange, ferruginous indumentum, this fading to dark grey with age. Inflorescences terminal, fascicled, 1–4-flowered; pedicels covered in dark-orange, ferruginous tomentum, 2–6mm long. Flowers night-fragrant, gynodioecious. Sepals lanceolate, 4–5mm long, pilose, hairs yellow-orange; petals oblanceolate, acute to subacute 9–12 × 2–3.5mm, chocolate, reddish-black, red, occasionally yellow. Anthers oblong, acute, yellow, 2–4mm long, filaments 5–6mm long, reddish-black, red, occasionally yellow. Ovary ovoid or ellipsoid, thickly invested in ferruginous, pilose hairs, 3–5mm long; style 4–6mm long, stigma capitate. Capsules 2-valved, globose, apex occasionally with a small 1–2mm mucro, c. 10 × 10mm, external surface smooth to faintly rugose, copiously covered in ferruginous tomentum, this fading from buff-yellow to greyish-white with age, valves ± woody, much thickened at apex; mucilage orange-brown. Seeds 2–15, 3.5–4.5mm long, broadly elliptic or irregular, lustrous red-brown or black.

## SIMILAR TAXA

The unusual orange-brown hairs which copiously cover the foliage, branchlets and capsules of this species suggest a close relationship to *P. ellipticum*, which is a small tree of northern North Island forests. From *P. serpentinum*, *P. ellipticum* differs by its small tree habit, fewer branches, larger leaves which are less obviously covered in orange hairs, and larger subglobose 2–3-valved fruits which hold 27–36 seeds per capsule. A relationship with *P. fairchildii*, is also inferred by the seed morphology. *Pittosporum fairchildii* is a small tree endemic to the Three Kings islands. It has oblanceolate leaves which are dark green on the upper surface, and glabrescent light green undersides. Its capsules are 3-valved, 10–15 mm diameter long persistent, and they scarcely open. The valves are somewhat fleshy and mature yellow-green.

## FLOWERING

July - October. Sexes on different plants.

## FLOWER COLOURS

Black, Red/Pink

## FRUITING

August - January

## PROPAGATION TECHNIQUE

Difficult. Should not be removed from the wild. Past attempts to cultivate this species or propagate it using soft-, semi- or hardwood cuttings, layered pieces, seed, grafts and tissue culture have been unsuccessful.

## THREATS

*Pittosporum serpentinum* is known from 153 individuals in the wild (138 of these are reproductive adults). These are at serious risk from browsing animals such as possums. Indeed possums are now severely impacting the species (de Lange et al. 2011). Weeds such as pines (*Pinus radiata*), pampas grass (*Cortaderia selloana*) and needle-leaved hakea (*Hakea sericea*) are also a long-term potential risks to this shrub, and indeed all of the Surville Cliffs flora. Although seedlings have never been seen, in 2009 and 2011 the first ever saplings (a total of 15) were seen (de Lange et al. 2011). It should be noted that all of the North Cape area is potentially at risk from fire.

## ETYMOLOGY

**pittosporum:** Pitch seed

**serpentinum:** Refers to a snake

## WHERE TO BUY

Not in cultivation.

## TAXONOMIC NOTES

*Pittosporum serpentinum* was originally described as a subspecies of *P. ellipticum* (de Lange 1998) but it was elevated to species rank following observations made by Webb & Simpson (2001) that the seed morphology most matched *P. fairchildii* (see comments by de Lange 2003).

## ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange 30 September 2003 (original) updated 31 August 2011. Description adapted from de Lange (1998, 2003) and de Lange et al. (2010).

## REFERENCES AND FURTHER READING

- de Lange, P. J. 1998: *Pittosporum ellipticum* subsp. *serpentinum* (Pittosporaceae) – a new ultramafic endemic from the Surville Cliffs, North Cape, New Zealand. *New Zealand Journal of Botany* 36: 389–97.
- de Lange, P.J. 2003: *Pittosporum serpentinum* (de Lange) de Lange (Pittosporaceae), a new species combination for an ultramafic endemic from North Cape, New Zealand. *New Zealand Journal of Botany* 41(4): 725–726.
- de Lange, P.J.; Heenan, P.B.; Norton, D.A.; Rolfe, J.R.; Sawyer, J.W.D. 2010: *Threatened Plants of New Zealand*, Christchurch, Canterbury University Press.
- de Lange, P.J.; Collings, J.; Townsend, A.J.; Rolfe, J.R. 2011: Surville Cliffs kohuhu (*Pittosporum serpentinum*) survey (field seasons 2009 and 2010). *Trilepidea* 87: 3–5.
- Webb, C.J.; Simpson, M.J.A. 2011: *Seeds of New Zealand Gymnosperms and Dicotyledons*. Christchurch, Manuka Press.

## NZPCN FACT SHEET CITATION

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<https://www.nzpcn.org.nz/flora/species/pittosporum-serpentinum/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/pittosporum-serpentinum/>