

# Piper excelsum subsp. delangei

## COMMON NAME

de Lange's kawakawa, de Lange's pepper

## SYNONYMS

Macropiper excelsum subsp. peltatum f. delangei R.O. Gardner

## FAMILY

Piperaceae

## AUTHORITY

Piper excelsum subsp. delangei (R.O. Gardner) de Lange

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

## CHROMOSOME NUMBER

2n = 26

## CURRENT CONSERVATION STATUS

2017 | At Risk – Naturally Uncommon | Qualifiers: CD, IE

## PREVIOUS CONSERVATION STATUSES

2012 | At Risk – Naturally Uncommon | Qualifiers: CD, IE

2009 | At Risk – Naturally Uncommon | Qualifiers: RC, IE

2004 | Range Restricted

## BRIEF DESCRIPTION

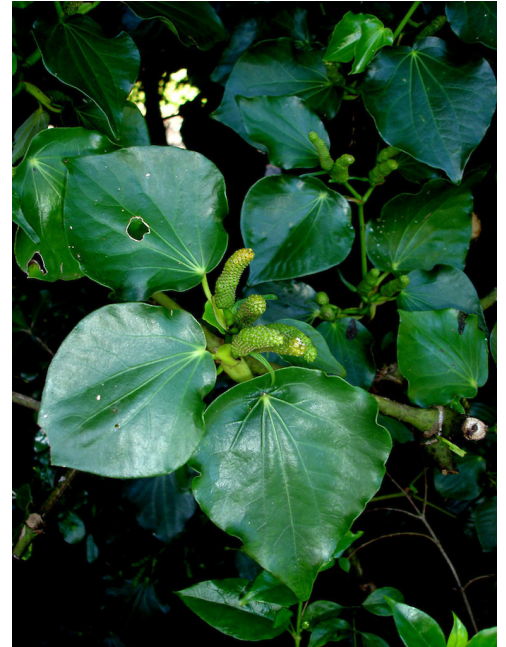
Fleshy shrub with jointed green twigs bearing large dark green glossy heart-shaped fleshy leaves with hard green flower spikes inhabiting the Three Kings Islands. Leaves to 160mm wide, veins radiating from middle, peppery to taste. Fruit orange.

## DISTRIBUTION

Endemic. Three Kings Islands: Manawa Tawhi (Great Island), South West and North East Islands

## HABITAT

Coastal forest where it is often an important component of the shrub layer. On South West Island it is sympatric with, and forms hybrids with *Piper melchior*.



Macropiper excelsum subsp. peltatum f. delangei. Photographer: Peter J. de Lange, Licence: CC BY-NC.



Macropiper excelsum subsp. peltatum f. delangei. Photographer: Peter J. de Lange, Licence: CC BY-NC.

## DETAILED DESCRIPTION

Shrub or small tree to at least 3 m tall; stems  $\pm$  erect, not notably lenticellate, new shoots green (without reddish colouring), taste oily-aromatic and extremely peppery; pith of axes (including rachis of spike) usually without a mucilage core (but this sometimes present in sucker shoots), in older (leafless, secondarily thickened) stems the pith not more than 0.5 $\times$  stem diameter, and remaining intact in the largest trunks. Prophyll a collar to 0.5(-2.0) mm high. Leaf blades coriaceous, fleshy  $\pm$  suborbicular, at vegetative nodes to 100(-160) mm diameter, usually with 7 or 9 principal nerves, cordate at base, with a very narrow or closed sinus, occasionally basal lobes overlapping, or sometimes the blade peltate with the petiole inserted up to 5(-20) mm inside blade margin, upper surface of blade not bullate; petiole to 40(-60) mm long, c.0.4 $\times$  as long as blade, the sheath 0.3-1.0(-2) $\times$  as long as non-sheathing part, truncate-rounded at apex and not produced there, the non-sheathing part of petiole to 3.5 mm diam. Inflorescences solitary or 2-3 together on a short (rarely more than 1 cm long) axillary shoot, and (usually solitary) on the adjacent terminal shoot (occasionally this shoot not fertile); reduced leaf at apex of fertile shoot with a glabrous petiole and usually with a green oblong lamina at least 5 mm long, but lamina often  $\pm$  lacking, especially on terminal fertile shoot. Female inflorescence erect in flowering and remaining so into fruit, peduncle to c. 1.5 cm long, spike to 60(-100)  $\times$  c.6 mm diameter, with uniseriate usually 5-10-cellular hairs to 0.15 mm long on lower part of bract stalks and sparingly on rachis, these hairs not obvious on the peduncle just below the lowermost bracts; bracts peltate, bract heads 0.40-0.75 mm diameter; flowers at full emergence centred c.1.3 mm apart, emergent part of ovary ovoid; stigmas 3-4(-5), together c. 1.2 mm diameter. Male inflorescence erect, spike to c.110 mm long, proximally c.6 mm diameter, bracts and hairs as in female inflorescence; staminal filaments c. 0.25 mm long, anthers c.1.00  $\times$  0.75 mm wide. Ripe infructescence c.10 mm diameter; fruitlets coalescent, sunken apically about the persistent dark stigmas, exocarp and mesocarp orange; seed oblong to slightly obovoid, apiculate at apex, c.2.0  $\times$  1.5 dark brown, with (3-)4-5(-7) broad longitudinal furrows.

## SIMILAR TAXA

*Piper excelsum* subsp. *peltatum* has an allopatric distribution, it is otherwise superficially similar differing mainly by its much thinner, less fleshy, and less frequently peltate leaves, more weakly ornamented seeds and less distinctly spicy taste.

## FLOWERING

August - December

## FRUITING

September - May

## PROPAGATION TECHNIQUE

Easy from semi-hardwood cuttings and fresh seed. Frost tender. Does best in semi-shade. It is remarkably drought tolerant. The dark green, thick, somewhat glossy, typically peltate leaves are quite unusual.

## THREATS

Not Threatened. Listed because it is a narrow range endemic confined to a small geographic area

## ETYMOLOGY

**piper:** Pepper

**excelsum:** Tall

**delangei:** Commemorating the New Zealand botanist Peter J. de Lange (1966-); de Lange specialises in threat classification systems, plant systematics, cytology and insular floras.

## TAXONOMIC NOTES

'The generic distinction between *Macropiper* and *Piper* has always been tenuous. Recently Jaramillo et al. (2008) have shown that *Macropiper* should be merged in *Piper*. However, they did not effect the full transfer of the New Zealand taxa to *Piper*. This action was taken by de Lange (2012) for *Macropiper excelsum* subsp. *psittacorum*, *Macropiper excelsum* subsp. *peltatum* f. *peltatum* and f. *delangei*.

## ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange 30 August 2005. Description based on Gardner (1997).

## REFERENCES AND FURTHER READING

- de Lange, P.J. 2012: Taxonomic notes on the New Zealand flora: new names in *Piper* (Piperaceae). *New Zealand Journal of Botany* DOI:10.1080/0028825X.2012.708904
- Gardner, R.O. 1997: Macropiper (Piperaceae) in the south-west Pacific. *New Zealand Journal of Botany* 35: 293-307.
- Jaramillo, M.A.; Callejas, R; Davidson, C.; Smith, J.F.; Stevens, A.C.; Tepe, E.J. 2008: A phylogeny of the tropical genus *Piper* using ITS and the chloroplast intron psbJ-petA. *Systematic Botany* 33: 647-660.

## NZPCN FACT SHEET CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Piper excelsum* subsp. *delangei* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.

<https://www.nzpcn.org.nz/flora/species/piper-excelsum-subsp-delangei/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/piper-excelsum-subsp-delangei/>