

# Piper excelsum subsp. peltatum

## COMMON NAME

kawakawa, pepper tree

## SYNONYMS

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

## FAMILY

Piperaceae

## AUTHORITY

Piper excelsum subsp. peltatum (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: Sp

## PREVIOUS CONSERVATION STATUSES

2012 | At Risk – Naturally Uncommon

2009 | At Risk – Naturally Uncommon

2004 | Range Restricted

## BRIEF DESCRIPTION

Fleshy shrub with jointed green twigs bearing large green glossy heart-shaped thin leaves with hard green flower spikes inhabiting northeastern islands. Leaves to 160mm wide, stalk attached near base of leaf, veins radiating from stalk, slightly peppery to taste. Fruit orange.

## DISTRIBUTION

Endemic. New Zealand: Poor Knights, Mokohinau Islands, Hen (Taranga), Great Barrier (Pitokuku Island), and also from Hauturu (Clark Island) near Whangamata

## HABITAT

Offshore islands in coastal forest.



Peltate leaf. Dec 2006. Photographer: Peter J. de Lange, Licence: CC BY-NC.



Peltate leaf. Dec 2006. Photographer: Peter J. de Lange, Licence: CC BY-NC.

## DETAILED DESCRIPTION

Shrub or small tree to at least 3 m tall; stems ± erect (occasionally layering), not notably lenticellate, new shoots green (leaf nerves, petioles and new stems without reddish colouring), taste oily-aromatic and very 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× stem diameter, and remaining intact in the largest trunks. Prophyll a collar to 0.5(-2.0) mm high. Leaf blades submembranous to firmly fleshy ± 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× as long as blade, the sheath 0.3-1.0(-2)× 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 10 mm 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 ± 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) × 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 × 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 × 1.5 dark brown, with (3-)4-5(-7) broad longitudinal furrows.

## SIMILAR TAXA

*Piper excelsum* subsp. *excelsum* from which it differs by its uniformly green, often peltate very peppery tasting leaves. From subsp. *peltatum*, f. *delangei* it differs by its less fleshy, more membranous leaves, and less hot, peppery tasting leaves, and more heavily ornamented seeds.

## FLOWERING

September - December

## FRUITING

October - August

## PROPAGATION TECHNIQUE

Easily grown from cuttings, layered pieces and fresh seed. An attractive shrub or small tree for a shaded site. Cold intolerant.

## THREATS

Not Threatened. Listed because it is a narrow range offshore island endemic

## ETYMOLOGY

**piper:** Pepper

**excelsum:** Tall

**peltatum:** Shield shape; from the Latin pelta

## 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

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

## MORE INFORMATION

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