

Piper excelsum subsp. excelsum

COMMON NAME

kawakawa, pepper tree

SYNONYMS

Macropiper excelsum (G.Forst.) Miq. subsp. excelsum

FAMILY

Piperaceae

AUTHORITY

Piper excelsum G.Forst.

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

NVS CODE

PIPESE

CHROMOSOME NUMBER

2n = 26

CURRENT CONSERVATION STATUS

2017 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2012 | Not Threatened | Qualifiers: Sp

2009 | Not Threatened

2004 | Not Threatened

BRIEF DESCRIPTION

Fleshy shrub with jointed dark twigs bearing large dark green glossy heart-shaped leaves with hard green flower spikes inhabiting south to Banks Peninsula. Leaves to 120mm wide, veins radiating from middle, peppery to taste, often with insect holes. Fruit orange.

DISTRIBUTION

Endemic. North and South Islands. Common from te Pahi south to about Okarito, North Canterbury and Banks Peninsula.

HABITAT

Coastal to lowland (extending up 500 m a.s.l. in warmer parts of the country). Usually an important understorey species in coastal forest.

WETLAND PLANT INDICATOR STATUS RATING

UPL: Obligate Upland

Rarely is a hydrophyte, almost always in uplands (non-wetlands).



Male inflorescence. Silverstream, Upper Hutt.
Photographer: Jeremy R. Rolfe, Date taken:
07/10/2006, Licence: CC BY.



Kawakawa. Photographer: Wayne Bennett,
Licence: CC BY-NC.

DETAILED DESCRIPTION

Small tree to at least 5 m tall; stems erect (occasionally layering), not notably lenticellate, new shoots red-green or green (leaf nerves, petioles and new stems with reddish colouring), taste peppery; pith of axes (including rachis of spike) without a mucilage core. Prophyll a collar to 0.3 (-2.2) mm high. Leaf blades submembranous, orbicular, suborbicular, at vegetative nodes to 100(-120) mm diameter, usually with 5-8 principal nerves, cordate at base, with a very narrow or closed sinus, occasionally basal lobes overlapping, 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 4.0 mm diameter. 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

Distinguished from the other subspecies by the wine-red to purple-black stems and petioles, and by the leaves which are never peltate, though on some of the Hauraki Gulf Islands, Tuhua (Mayor Island) and Chatham Islands plants often have overlapping leaf bases.

FLOWERING

August - November

FRUITING

Throughout the year

PROPAGATION TECHNIQUE

Easily grown from semi-hardwood cuttings and fresh seed. An attractive small tree that does best in dappled light, within a free draining but permanently moist soil. Very shade tolerant. Cold sensitive and will not tolerate frost.

ETYMOLOGY

piper: Pepper

excelsum: Tall

CULTURAL USE/IMPORTANCE

Kawakawa is a member of the pepper family related to kava - used as a drink in the Pacific. The fruit and leaves are aromatic and Maori used leaves as poultices to treat bruises, and as a sign of mourning.

FORAGING FOR KAWAKAWA

Click on the Radio New Zealand National logo to listen to This Way Up. Simon Morton interviews Johanna Knox about foraging for kawakawa (duration: 12'13")

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-excelsum/> (Date website was queried)

MORE INFORMATION

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