

# Sophora chathamica

## COMMON NAME

kōwhai, coastal kōwhai

## SYNONYMS

*Sophora microphylla* var. *chathamica* (Cockayne) Yakolev, *Sophora microphylla* subsp. *microphylla* var. *chathamica* (Cockayne) Yakolev

## FAMILY

Fabaceae

## AUTHORITY

*Sophora chathamica* Cockayne

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

## NVS CODE

SOPCHA

## CHROMOSOME NUMBER

2n = 18

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## BRIEF DESCRIPTION

A kowhai tree bearing leaves to 150mm long that have leaflets 6-16mm long by 4-8mm wide that slightly overlap and get smaller towards the tip and with bunches of drooping yellow flowers and dry ridged and knobby seed pods 50-180mm long containing hard yellow seeds. Juvenile and adults similar.

## DISTRIBUTION

Endemic. A primarily coastal species known from North, South and Chatham Islands but probably only indigenous to the northern half of the North Island, where it is common in the west from the Tongaporutu River to Te Pahi. In the east it is abundant south to about Thames, so far it has not been reported south and east of there. Very common around Auckland, the Hauraki Gulf and from Port Waikato south to Kawhia. There are some inland occurrences in the lower Waikato Basin. Disjunct occurrences around Wellington, the Chatham Islands and Whanganui Inlet may result from deliberate plantings by the Maori.

## HABITAT

Primarily a species of coastal forest, often on cliff faces or banks overlooking estuarine rivers or inlets. Occasionally found in swamp forest.



*Sophora chathamica* flowers, October, Coromandel. Photographer: John Smith-Dodsworth



*Sophora chathamica* foliage. Photographer: John Smith-Dodsworth

## FEATURES

Tree up to 20 m tall, with one or more trunks. Branches spreading to upright. Juveniles weakly flexuose. Leaves on seedlings and juveniles moderately to densely leafy, 4.4-9 x 4.4-7.5 mm, orbicular to very broadly obovate, crowded, usually overlapping. Adult leaves up to 150 mm long, imparipinnate, usually pubescent, hairs, straight, appressed. Leaflets 25-55, crowded and overlapping, 6-16 x 4-8 mm, broadly elliptic, broadly obovate, broadly ovate, obovate to orbicular, distal leaflets usually smaller than proximal. Inflorescences racemose with up to 11 flowers. Calyx 8-10 x 10-13 mm, cupulate. Flowers yellow, keel petal blade 29-43 x 9-11 mm, wing petal blade 25-42 x 9-11 mm, standard petal blade 25-34 x 20-25 mm; petals with distinct claws 4-6 mm long. Fruit 50-180 mm long, 4-winged, brown, with up to 12 seeds. Seeds 5.5-8 x 4.-5. mm, oblong, elliptic to orbicular, yellow to light yellow-brown.

## SIMILAR TAXA

Distinguished from all other Kowhai species by the absence of a divaricating/filiramulate juvenile stage; with leaflets 6-16 x 4-8 mm; and by the distal leaflets usually smaller than proximal, crowded and overlapping (especially toward distal end), with leaflets broadly elliptic, broadly obovate, broadly ovate, obovate to more or less orbicular, with all parts moderately hairy.

## FLOWERING

August-November

## FLOWER COLOURS

Yellow

## FRUITING

October-September

## PROPAGATION TECHNIQUE

Easy from seed, provided the hard seed shell is nicked first with a knife or rubbed with sandpaper to expose the endosperm. Soaking seed treated this way overnight often helps speed up germination. Can be grown with difficulty from cuttings.

## THREATS

The main threat that faces all wild New Zealand kowhai species is the risk posed through planting for revegetation and horticultural purposes of hybrid material, foreign species, such as the Chilean Pelu (*S. cassioides*) and also of kowhai species outside their natural range. However, *S. chathamica* seems to be very common throughout its range, and is adequately protected within a range of reserves and land set aside for conservation purposes. The nativity of the Chatham Island populations is not clear, and though assumed to be planted by Maori, because this assertion needs further study and the trees are culturally significant they require direct management. Few (if any Chatham Island) plants can be said to exist in truly secure habitats.

## ETYMOLOGY

**sophora:** After the Arabic name for a similar tree

**chathamica:** From the Chatham Islands

## WHERE TO BUY

Commonly available at most commercial nurseries. A popular native tree for larger gardens. Very commonly sold in garden centres, where it is often sold as either *S. microphylla* or *S. tetraptera*. Some plants with a superficial resemblance to *S. chathamica* and offered by nurseries usually as *S. microphylla* or *S. tetraptera* have, upon closer inspection, turned out to be the closely related Chilean pelu (*S. cassioides*).

## POISONOUS PLANT

All parts of the plant but especially the ripe yellow seed are poisonous. Because the seed are hard they will take a lot of chewing to cause harm, and also will need to be consumed in large quantities to effectively poison a human. If the seed are crushed before eating it is more likely that they will cause harm. The major toxin is Cytisine and symptoms of poisoning include nausea, vomiting, increased heart rate, twitching of muscles or loss of coordination. Onset of these symptoms may occur within one hour. In extreme cases symptoms include paralysis and respiratory failure. Click on this link for more information about [Poisonous native plants](#).

## ATTRIBUTION

Fact Sheet prepared for NZPCN by P.J. de Lange (31 July 2004). Description adapted from Heenan et al. (2001).

## REFERENCES AND FURTHER READING

Anonymous. 1944. Kowhai. Wellington Botanical Society Bulletin, 9: 4-5

Heenan, P.B.; de Lange, P. J.; Wilton, A. D. 2001: *Sophora* (Fabaceae) in New Zealand: taxonomy, distribution, and biogeography. *New Zealand Journal of Botany* 39: 17-53

## CITATION

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## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/sophora-chathamica/>