

# Sophora tetraptera

## COMMON NAMES

kōwhai, large-leaved kōwhai

## SYNONYMS

*Edwardsia grandiflora* (J.S.Mill.) Salisb., *Edwardsia tetraptera* (J.Mill.) W.R.B.Oliv.

## FAMILY

Fabaceae

## AUTHORITY

*Sophora tetraptera* J.S.Mill.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

## NVS CODE

SOPTET

## CHROMOSOME NUMBER

2n = 18

## CURRENT CONSERVATION STATUS

2017 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2012 | Not Threatened

2009 | Not Threatened

2004 | Not Threatened

## SIMPLIFIED DESCRIPTION

A commonly-grown kowhai tree bearing leaves 100-220 long that have widely-spaced greyish-green leaflets 15-40mm long and with bunches of drooping yellow flowers and dry ridged and knobbly seed pods 100-280mm long containing hard yellow seeds. Juveniles and adults similar. Naturally occurring in the eastern North Island, Taupo and Waikato River.

## DISTRIBUTION

Endemic. Known in a natural state only from the eastern portion of the the North Island from East Cape south to the Wairarapa, extending west toward Taihape, Lake Taupo and along the Waikato River to about Lake Karapiro. However, extensively planted outside this range and often naturalising.

## HABITAT

Widespread and common from coastal forested habitats inland along rivers and within associated low scrub and forest. Common around lake margins (especially Lake Taupo) and on ignimbrite cliffs bordering the upper Waikato River. Although a primarily lowland species it can occur in montane riparian forest.



*Sophora tetraptera*, Taupo. Photographer: Gillian M. Crowcroft, Licence: All rights reserved.



Taupo. Photographer: Gillian M. Crowcroft, Licence: All rights reserved.

## DETAILED DESCRIPTION

Tree up to 15 m tall, trunk 0.6-1 m diam., often several arising from ground. Branches spreading, sometimes pendulous. Branchlets clad in golden yellow or grey tomentum. Juvenile plants not divaricating or flexuous, exhibiting an erect growth, non-interlacing habit from germination. Leaves 100-150(-220) mm, imparipinnate, moderately hairy, hairs, straight, appressed. Leaflets 10-20(-25) pairs, 15-35(-40) x 5-8 mm, well spaced, never overlapping or crowded, narrowly ovate to elliptic-oblong. Inflorescences racemose with up to 10 flowers. Calyx 10-20 x 10-15 mm, cupulate. Flowers golden-yellow, keel petal blade 20-50(-60) x 10-16(-18) mm, wing petal blade 25-50(-62) x 10-16 mm, standard petal blade 30-35(-42) x 18-30(-35) mm; petals with distinct claws 6-8 mm long. Fruit (100-)200(-280) mm long, broadly 4-winged, brown, with 6-12 or more seeds. Seeds 6.5-9(-10) x 6-7.5 mm, oblong, elliptic to orbicular, yellow to light yellow-brown.

## SIMILAR TAXA

Easily distinguished from all other Kowhai species by the very large and wide grey-green leaves, with the leaflets 15-35 mm x 5-8 mm, ovate to elliptic-oblong, densely clad in silky, straight, appressed hairs. From the members of the *S. microphylla* complex it can also be distinguished by the flowers whose standard is distinctly less than the length of the wings.

## FLOWERING

(September-) October-December

## FLOWER COLOURS

Yellow

## FRUITING

October-May

## 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. tetraptera* seems to be very common throughout its range, and is adequately protected within a range of reserves and land set aside for conservation purposes.

## ETYMOLOGY

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

**tetraptera:** Four winged

## 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](#).

## CULTIVATION

Commonly available at most commercial nurseries. A popular native tree for larger gardens. Some plants sold by nurseries are possibly hybrids with *S. microphylla*.

## ATTRIBUTION

Fact Sheet prepared for NZPCN by P.J. de Lange (31 July 2004). Description adapted from Allan (1961).

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## REFERENCES AND FURTHER READING

Allan, H.H. 1961: Flora of New Zealand. Vol. I. Wellington, Government Printer.

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

## NZPCN FACT SHEET CITATION

Please cite as: de Lange, P.J. (Year at time of access): Sophora tetraptera Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/sophora-tetraptera/> (Date website was queried)

## MORE INFORMATION

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

## PDF DATE

17 September 2024