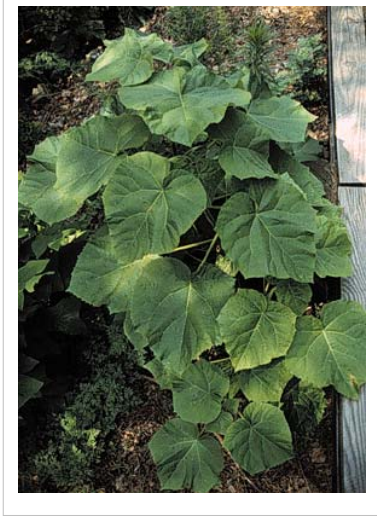


Paulownia

<i>Paulownia</i>	
	
<i>Paulownia tomentosa</i> foliage	
Scientific classification	
Kingdom:	Plantae
(unranked):	Angiosperms
(unranked):	Eudicots
(unranked):	Asterids
Order:	Lamiales
Family:	Paulowniaceae
Genus:	<i>Paulownia</i>
Species	
Between 6-17 species, including: <i>Paulownia catalpifolia</i> <i>Paulownia elongata</i> <i>Paulownia fargesii</i> <i>Paulownia fortunei</i> <i>Paulownia kawakamii</i> <i>Paulownia taiwaniana</i> <i>Paulownia tomentosa</i>	

Paulownia is a genus of from 6 to 17 species (depending on taxonomic authority) of plants in the family **Paulowniaceae**, related to and sometimes included in the Scrophulariaceae. They are native to much of China, south to northern Laos and Vietnam, and long cultivated elsewhere in eastern Asia, notably in Japan and Korea (오동나무). They are deciduous trees 12–15 m (40–50 ft) tall, with large, heart-shaped leaves 15–40 cm across, arranged in opposite pairs on the stem. The flowers are produced in early spring on panicles 10–30 cm long, with a tubular purple corolla resembling a foxglove flower. The fruit is a dry capsule, containing thousands of minute seeds.



Paulownia fortunei flowers and bark

The genus, originally *Pavlovnia* but now usually spelled *Paulownia*, was named in honour of Queen Anna Pavlovna of The Netherlands (1795–1865), daughter of Tsar Paul I of Russia. It is also called "princess tree" for the same reason.^[1]

Paulownia fortunei is an extremely fast-growing tree, grown commercially for production of hardwood timber. *P. fortunei* and hybrids containing *P. fortunei*, have been the main focus of genetic improvement since 1988 by Toad Gully Growers, a specialist Paulownia propagation nursery based in Australia who supply planting stock worldwide. *P. fortunei* generally displays better apical dominance than other Paulownia species along with greater

adaptability to a wide range of soil types and climates.

Paulownia tomentosa is listed as an invasive species in the southeastern United States, having been introduced there as an ornamental tree for its decorative flowers.^[2]

Uses

It is popular in its native China for reforestation, roadside planting and as an ornamental tree. BooksWikipedia:Avoid weasel words say it grows well in a wide variety of soil types, notably poor ones, and needs a lot of light and usually does not like high water tables. Paulownia timber is a pale, whitish coloured wood with a straight grain, but it can also be silver grey, light brown or reddish. Its characteristics of rot resistance and a very high ignition point ensures the timber's popularity in the world market. Paulownia grown on plantations generally has widely spaced growth rings and is therefore much less valuable. The wood is also important in China, Korea, and Japan for making the soundboards of stringed musical instruments such as the guqin, guzheng, pipa, koto, and kayagum.

Testing by CSIRO in Australia has shown that Paulownia wood is very attractive for wood-boring insects.^[3] *Paulownia* species are also used as food plants by the larvae of some Lepidoptera species including *Endoclita excrescens*.



This paulownia flower pattern (go-shichi-no-kiri) is the symbol of the Office of the Prime Minister of Japan

Paulownia is known in Japanese as *kiri* (桐), specifically referring to *P. tomentosa*; it is also known as the "princess tree". It was once customary to plant a Paulownia tree when a baby girl was born, and then to make it into a dresser as a wedding present when she married. Paulownia is the *mon* of the office of prime minister and also serves as the emblem of the cabinet and the government (vis-à-vis the chrysanthemum being the Imperial Seal of Japan). It is one of the suits in hanafuda, associated with the month of December. *Japan: An Illustrated Encyclopedia* (page 1189; Tokyo: Kodansha, 1993. ISBN 4-06-931098-3) states:

Paulownia wood is very light, fine-grained, soft, and warp-resistant and is used for chests, boxes, and clogs (*geta*). Its low silica content reduces dulling of blades, making it a preferred wood for boxes to hold fine Japanese edge tools. The wood is burned to make charcoal for sketching and powder for fireworks, the bark is made into a dye, and the leaves are used in vermicide preparations. The silvery-grey wood is sliced into veneers for special visiting cards.^[4]

These fine grained, soft and warp-resistant properties also make Paulownia wood exceptionally suited for making wooden surfboards. Tom Wegener of Noosa, Australia, his brother Jon of Hermosa Beach, California, and more recently "Empress Surfboards" are amongst the shapers who pioneered its use.^[citation needed] Unlike those made from balsa wood, the resulting surfboards do not need to be glassed.

More recently, it is used as body material for low-cost electric guitars and as the core for lightweight touring skis. It is often used in guitars as the core body, then laminated under a more durable wood, such as the Dean ML XM that is made of Paulownia as the body but is topped with mahogany.

Paulownia is extremely fast growing; up to 20 feet in one year when young. Some species of plantation Paulownia can be harvested for saw timber in as little as five years. Once the trees are harvested, they regenerate from their existing root systems, earning them the name of the "Phoenix tree." Paulownia has the ability to reclaim ecologically stressed and degenerate patches of land relatively quickly.

Recently, Paulownia has received a great deal of interest for its environmental properties and has been put forward as a potential solution to the global deforestation problem which lies at the heart of the climate change debate. It is being used as a reforestation tree in several countries, including Australia, Germany, China, the USA and Panama. Reforestation projects using the species are being run by organizations such as EcoTech Timber, Inc, ECO2 International, Robinia Invest, Eco Sustainable Systems, Silva Tree and Kiri Park Projects spurred by Paulownia's fast growth and additional environmental benefits.

Paulownia has also proved to increase food production when used for intercropping and to prevent soil erosion. A large reforestation project in China increased food production in the Yellow River and Yangtse flood plains and halted erosion on approximately 3.15 million ha (12,200 sq mi) of land.

As a forestry crop Paulownia are exacting in their requirements, performing well only in very well draining soil, with summer rainfall or availability of irrigation water. A great deal of trialling and development by the pioneers of a Paulownia industry in Australia, Joe Virtanen of Australian Paulownia Trees and Plantations and James Lawrence of Toad Gully Growers, has shown there is a lot that can be done toward ensuring a successful plantation; primarily through selection of top genetics and improving the growing conditions, such as cultivation to increase drainage and adding fertiliser and irrigation.

Species

- **Genus *Paulownia***
 - *Paulownia australis*
 - *Paulownia catalpifolia*
 - *Paulownia coreana* (*Paulownia tomentosa* var. *coreana*)
 - *Paulownia duclouxii*
 - *Paulownia elongata*
 - *Paulownia fargesii*
 - *Paulownia fortunei* — Dragon tree. ^[5] ^[6]
 - *Paulownia glabrata*
 - *Paulownia grandifolia*
 - *Paulownia imperialis*



A Japanese Kobundō (小分銅), 95-97% gold, "Paulownia" *Kiri* mark (桐), Kikubana (菊花) emblem, 373.11 grams, Japan.

- *Paulownia kawakamii*
- *Paulownia lilacina*
- *Paulownia longifolia*
- *Paulownia meridionalis*
- *Paulownia mikado*
- *Paulownia recurva*
- *Paulownia rehderiana*
- *Paulownia shensiensis*
- *Paulownia silvestrii*
- *Paulownia taiwaniana*
- *Paulownia thyrsoidea*
- *Paulownia tomentosa*
- *Paulownia viscosa*

References

- [1] Rush Industries, 2000.
- [3] Australian Standard 5604, Listed in Australian Standard 5604-2005 Appendix A, p. 17
- [5] Virginia Tech: *Paulownia fortunei* — Dragon tree (<http://dendro.cnre.vt.edu/dendrology/syllabus2/factsheet.cfm?ID=895>)
- [6] Wikimedia commons — Category: *Paulownia fortunei* (http://wikimedia.org/wikipedia/commons/wiki/Category:Paulownia_fortunei) — *images*.

External links

- Paulownia forestry information (<http://paulownia.info/paulownia-information>)
 - Paulownia Research Center in China (Shaanxi) (in English) (<http://www.chinesepaulownia.com/>)
 - Flora of China - *Paulownia* (http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=124177)
 - Paulownia trees.org (<http://www.paulowniatrees.org/>)
 - silvatree.com: Paulownia forestry (<http://www.silvatree.com/paulownia.html>)
 - fadr.msu.ru: "Paulownia, the Tree of Choice in China" (<http://www.fadr.msu.ru/rodale/agsieve/txt/vol4/issue1/1.html>)
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