


Paulownia tomentosa

Empress Tree	
	
<i>Paulownia tomentosa</i>	
Scientific classification	
Kingdom:	Plantae
(unranked):	Angiosperms
(unranked):	Eudicots
(unranked):	Asterids
Order:	Lamiales
Family:	Paulowniaceae
Genus:	<i>Paulownia</i>
Species:	<i>P. tomentosa</i>
Binomial name	
<i>Paulownia tomentosa</i> (Thunb.) Steud.	



Flowering tree

Paulownia tomentosa (also known as the **Empress Tree**, **Princess Tree** or **Foxglove Tree**) is a deciduous tree in the genus *Paulownia*, native to central and western China, but invasive in the US.^{[1][2][3]} It grows to 10–25 m tall, with large heart-shaped to five-lobed leaves 15–40 cm across, arranged in opposite pairs on the stem. On young growth, the leaves may be in whorls of three and be much bigger than the leaves on more mature growth.^[4] The leaves can be mistaken for those of the catalpa. The characteristic large size of the young growth is exploited by gardeners: by pollarding the tree and ensuring there is vigorous new growth every year, massive leaves are produced (up to 60 cm across). These are popular in the modern style of gardening which uses large-foliaged and "architectural" plants. Regarding its nomenclature, Paulownia is in honour of the Grand Duchess Anna Pavlovna of Russia, also known as Anna Paulowna, a princess of the Netherlands, with *tomentosa* being derived from the Latin meaning 'covered in hairs'.

Description



Flowers and young leaves



Twig with old seed pods

The flowers are produced before the leaves in early spring, on panicles 10–30 cm long, with a tubular purple corolla 4–6 cm long resembling a foxglove flower. The fruit is a dry egg-shaped capsule 3–4 cm long, containing numerous tiny seeds. The seeds are winged and disperse by wind and water. Pollarded trees do not produce flowers, as these only form on mature wood.

Paulownia tomentosa can survive wildfire because the roots can regenerate new, very fast-growing stems. It is tolerant of pollution and it is not fussy about soil type. For this reason it functions ecologically as a pioneer plant. Its nitrogen-rich leaves provide good fodder and its roots prevent soil erosion. Eventually, *Paulownia* is succeeded by taller trees that shade it. It cannot thrive in the shade of other trees.

Uses

P. tomentosa is cultivated as an ornamental tree in parks and gardens. It has gained the Royal Horticultural Society's Award of Garden Merit.^[5]

In China, an old custom is to plant an Empress Tree when a baby girl is born. The fast-growing tree matures when she does. When she is eligible for marriage the tree is cut down and carved into wooden articles for her dowry. Carving the wood of *Paulownia* is an art form in Japan and China. In legend, it is said that the Phoenix will only land on the Empress Tree and only when a good ruler is in power. Several Asian string instruments are made from *P. tomentosa*, including the Japanese *koto* and Korean *gayageum* zithers.

The soft, lightweight seeds were commonly used as a packing material by Chinese porcelain exporters in the 19th century, before the development of polystyrene packaging. Packing cases would often leak or burst open in transit and scatter the seeds along rail tracks. This, together with seeds released by specimens deliberately planted for ornament, has allowed the species to become an invasive weed tree in areas where the climate is suitable for its growth, notably Japan and the eastern United States.^[6]

Composition

Some geranylflavonoids can be found in *P. tomentosa*.^[7]

Pictures



Trunk



Fruit



Spent Fruit

References

- [2] (<http://plants.usda.gov/java/nameSearch?keywordquery=Paulownia+tomentosa&mode=sciname&submit.x=17&submit.y=12>) (<http://nbii-nin.ciesin.columbia.edu/ipane/earlydetection/tables.htm>)
- [3] (<http://www.tneppc.org/TNEPPC2004PlantList-8x11.pdf>)
- [4] image comparing large and small trees (<http://www.cas.vanderbilt.edu/bioimages/species/pato2.htm#Whole tree>)
- [5] <http://apps.rhs.org.uk/plantselector/plant?plantid=1388>
- [7] C-geranyl compounds from Paulownia tomentosa fruits. Smejkal Karel, Grycova Lenka, Marek Radek, Lemiere Filip, Jankovska Dagmar, Forejtnikova Hana, Vanco Jan and Suchy Vaclav, Journal of natural products, 2007, vol. 70, no8, pp. 1244-1248 (<http://cat.inist.fr/?aModele=afficheN&cpsid=19037301>)

External links

- *Paulownia tomentosa* images at bioimages.vanderbilt.edu (<http://www.cas.vanderbilt.edu/bioimages/species/frame/pato2.htm>)
- Species Profile- Princess Tree (*Paulownia tomentosa*) (<http://www.invasivespeciesinfo.gov/plants/printtree.shtml>), National Invasive Species Information Center, United States National Agricultural Library. Lists general information and resources for Princess Tree.

Article Sources and Contributors

Paulownia tomentosa *Source:* <http://en.wikipedia.org/w/index.php?oldid=546578847> *Contributors:* Abrahami, Ajaxfiore, Altairisfar, Americasroof, BD2412, Badagnani, Baskaufs, Brettastic, Caponer, Cayte, Ceyockey, Chhe, Darorcilmir, Ezhiki, Fanghong, Flakinho, Gidonb, Hamamelis, Hesperian, Ibsinc, Igno2, Jaguarlaser, Jboltonnal, Jean-Pol Grandmont, Kaarel, Kingdon, MPP, Martin Kozák, Maxima m, Meneerke bloem, Miq, Naddy, Neutrality, Nono64, Piepacker, Pixeltoo, Plasticup, SB Johnny, TDogg310, Tide rolls, Thustulimu, Tom Hulse, 21 anonymous edits

Image Sources, Licenses and Contributors

file:Paulownia tomentosa JPG2a.jpg *Source:* http://en.wikipedia.org/w/index.php?title=File:Paulownia_tomentosa_JPG2a.jpg *License:* Creative Commons Attribution 2.5 *Contributors:* Jean-Pol GRANDMONT

Image:Paulownia tomentosa.jpg *Source:* http://en.wikipedia.org/w/index.php?title=File:Paulownia_tomentosa.jpg *License:* Creative Commons Attribution-Sharealike 3.0,2.5,2.0,1.0 *Contributors:* Meneerke bloem

Image:Paulownia tomentosa (detail).jpg *Source:* [http://en.wikipedia.org/w/index.php?title=File:Paulownia_tomentosa_\(detail\).jpg](http://en.wikipedia.org/w/index.php?title=File:Paulownia_tomentosa_(detail).jpg) *License:* Creative Commons Attribution-Sharealike 3.0,2.5,2.0,1.0 *Contributors:* Meneerke bloem

Image:Paulownia tomentosa fruits.jpg *Source:* http://en.wikipedia.org/w/index.php?title=File:Paulownia_tomentosa_fruits.jpg *License:* Creative Commons Attribution-Share Alike *Contributors:* Meneerke bloem

Image:PaulowniaTomentosaTrunk.jpg *Source:* <http://en.wikipedia.org/w/index.php?title=File:PaulowniaTomentosaTrunk.jpg> *License:* Public Domain *Contributors:* -

Image:PaulowniaTomentosaFruit.jpg *Source:* <http://en.wikipedia.org/w/index.php?title=File:PaulowniaTomentosaFruit.jpg> *License:* Public Domain *Contributors:* -

Image:PaulowniaTomentosaShell.jpg *Source:* <http://en.wikipedia.org/w/index.php?title=File:PaulowniaTomentosaShell.jpg> *License:* Public domain *Contributors:* Chhe at en.wikipedia

License

Creative Commons Attribution-Share Alike 3.0 Unported
[//creativecommons.org/licenses/by-sa/3.0/](http://creativecommons.org/licenses/by-sa/3.0/)