Paulownia tomentosa (Thunb.) Steud.

Bignoniaceae

LOCAL NAMES
Chinese (maopaotong,zihuapaotong,ribenpaotong,zitong); Dutch (Anna-paulownaboom); English (royal paulownia,princess tree,foxglove tree,empress tree); French (paulownia de Chine,arbré d'anna paulownia); German (paulownie,Kaiser- Paulownie,filziger Blauglockenbaum); Italian (paulownia); Japanese (kiri)

BOTANIC DESCRIPTION
Paulownia tomentosa is a deciduous tree of height of 9-21 m at maturity, depending on site and management. Twigs smooth, brown, dotted with lenticels. Bark brownish grey with shallow fissures.

Leaves heart-shaped and enormous especially on sprout where leaves up to 3 ft across have been observed, covered with mass hairs on the underside

Flowers showy, violet or blue, perfect, in terminal panicles up to 25 cm long.

Fruits ovoid, pointed, woody capsules about 3-4 cm long, turning brown in fall when mature and persist on the tree through winter.

Seeds tiny, winged and flat, about 0.15 to 0.3 cm long.

Paulownia imperialis was named in honour of Anna Pavlovna (1795-1865), daughter of Czar Paul I of Russia and wife of Prince (later King) Willem of the Netherlands. The specific epithet means thickly and evenly covered with short hairs in reference to the leaves.

BIOLOGY
The flowers appear in April and May before the leaves emerge.

Paulownia tomentosa (Thomas Raussen)

(J.S. Peterson @ USDA-NRCS PLANTS Database)

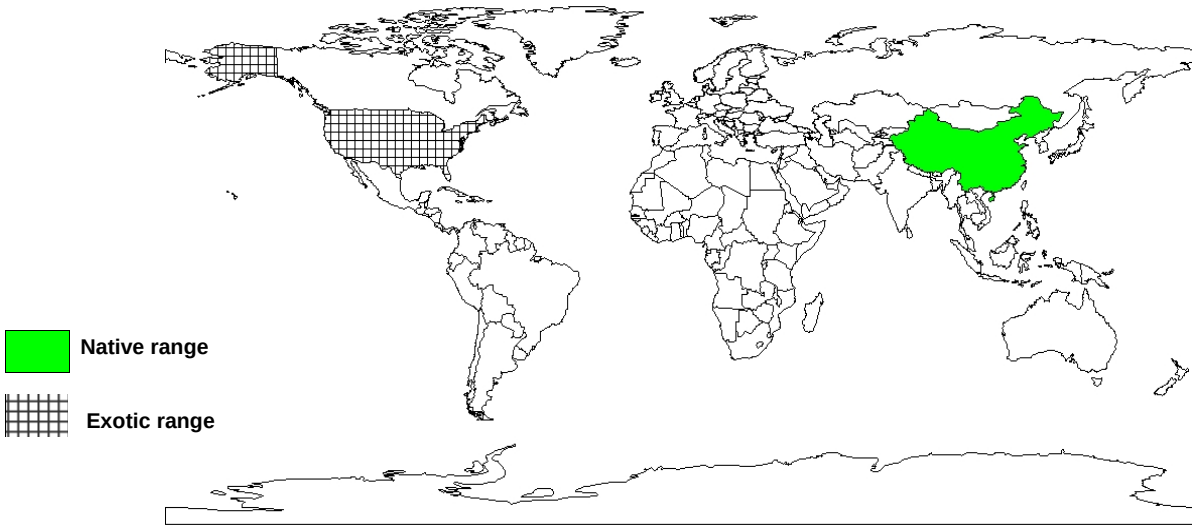
Flowers (William S. Justice @ USDA-NRCS PLANTS Database)

ECOLOGY
This species is a vigorous colonizer and has been reported as a weed for its poor form and rather large shade leaves on fertile soils. Paulownia spp prefer warm climates.

BIOPHYSICAL LIMITS
Mean annual temperature: 24- 30 deg C.
Soil type: Tolerates a wide range of soil types from acid, alkaline to neutral. It prefers deep medium loamy well drained soils and highly susceptible to waterlogging.

DOCUMENTED SPECIES DISTRIBUTION

Native: China
Exotic: US



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Fodder: Leaves make good fodder for pigs, sheep and rabbits.

Fibre: Its rapid early growth has attracted the interest of the paper industry.

Timber: This species is not grown for its biomass alone, but also for its use as a quality furniture wood, veneer, carving and musical instruments.

SERVICES
Shade or shelter: It plays an important service role as a windbreak wherever it grows.

Reclamation: In the USA, for instance, it seems well adapted to harsh micro-climates on surface mines and may aid in the reclamation of such sites.

Ornamental: its rapid growth, attractive flower, and excellent wood quality make it a genus that needs to be considered for further use in the United States.

Intercropping: The roots occupy a different layer than most annual crops and this suggests its potential for intercropping. However when propagated by cutting, the tree forms an extensive lateral root system and loses its deep rooting characteristics.

TREE MANAGEMENT
Coppices readily. Management for quality saw logs involves good post-planting care and several stem-pruning operations. Stems are prone to fungal attacks through pruning wounds. Injuries should therefore be avoided. In China, its source of origin, yields of 36-53 cu m/ha have been reported.

GERMPLASM MANAGEMENT
Dry fruits can be collected and opened by hand any time before they disperse their seeds. It has been estimated that there are about 6 million seeds/ kg. Seeds are kept in dry sealed containers, or stratified between moist layers of a mixture of peat and sand.

PESTS AND DISEASES
The two imperfect fungi phyllosticta paulowniae and Ascochyta paulowniae sometimes cause spots on Paulownia leaves. Both have brownish, lens-shaped pycnidia. The colourless, oblong, one-celled pycnospores of P. paulowniae measure 3-7 x 1.5-3 µm. Those of A. paulowniae are pale olive-coloured, two-celled, and spindle-shaped. They measure 14-18 x 3 µm.

FURTHER READNG

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SUGGESTED CITATION

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