

Paulownia tomentosa

Princess tree

Introduction

All seven species of the genus *Paulownia* are reported to grow in almost all the provinces of China, except Inner Mongolia, northern Xinjiang, and Tibet. Members of this genus prefer to grow in well-drained soil with a pH of 6-8. *Paulownia* species are among the most popular cultivated trees in China^[202].

Species of *Paulownia* in China

Scientific Name	Scientific Name
<i>P. australis</i> Gong Tong	<i>P. fortunei</i> (Seem.) Hemsl.
<i>P. catalpifolia</i> Gong Tong	<i>P. kawakamii</i> Ito
<i>P. elongata</i> S. Y. Hu	<i>P. tomentosa</i> (Thunb.) Steud.
<i>P. fargesii</i> Franch.	

Taxonomy

Family: Scrophulariales

Genus: *Paulownia* Sieb. et Zucc.

Description

Paulownia tomentosa is a woody tree that may reach 20 meters in height, with a broad, umbelliform crown. The bark is brownish gray. The branches have numerous nodes and obvious lenticels; young branches are covered with short glandular hairs. The cordate leaves are about 40 cm long, hairy on both surfaces, with the underside especially so. The leaves have acute apices and entire or lobed margins; which distinguishes *P. tomentosa* from *P. tomentosa* var. *tsinlingensis*. The violet, bell-shape flowers of the pyramidal to narrowly conical thyrses bloom from April to May. Fruits are ovate capsules 3-4.5 cm long, coated with viscid hair when young. The capsules appear from August to September. Seeds, including wings, are 2.5-4 mm long^[202].

Habitat and Distribution

Paulownia tomentosa occurs naturally at elevations below 1,800 m in Henan, Hubei, Shaanxi, and probably northern



Leaves and fruit of *Paulownia tomentosa*. (Photo by James H. Miller, USDA-FS.)

shallowly cordate leaf base and glabrous or sparsely hairy lower leaf surface. It occurs below 1,700 m in Gansu, Henan, Hubei, Shaanxi, Shandong, Shanxi, and Sichuan^[202].

Sichuan^[202].

Economic Importance

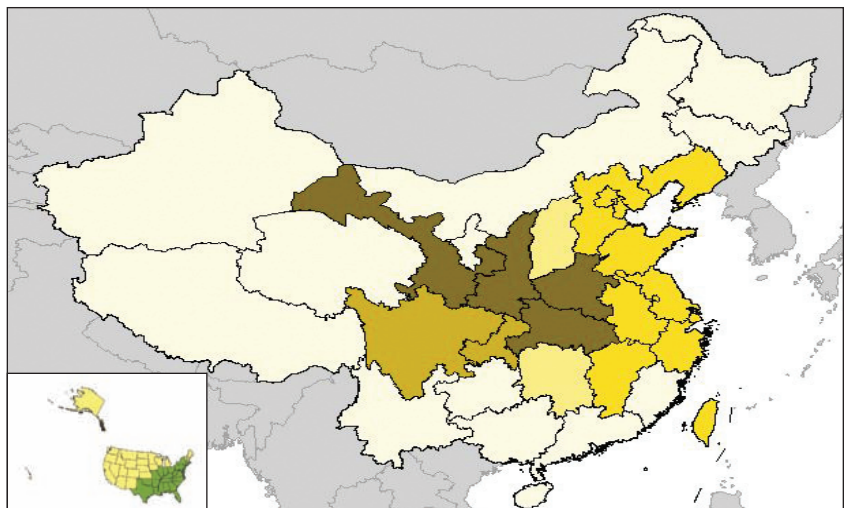
Similar to other members of the genus, *P. tomentosa* is cultivated for timber because of the texture of its wood, as well as its ability to tolerate harsh environments. It is also used medicinally^[202].

Related Species

Paulownia tomentosa var. *tsinlingensis* is distinguished from *Paulownia tomentosa* var. *tomentosa* by its round to

Natural Enemies of *Paulownia*

At least ten species of fungi have been reported to infect members of the genus *Paulownia*. Eight fungal species can live on *P. tomentosa*, four of which, *Ascochyta paulowniae*, *Gloeosporium kawakamii*, *Mycosphaerella corylea* and *Phyllactinia paulowniae* appear to be host specific. Paulownia witch's-broom, caused by a mycoplasma-like organism, occurs on *P. tomentosa* nationwide. There are 113 insects in 39 families within 7 orders associated



with *Paulownia*.

Fungi

Phylum	Family	Species	H. R.	Ref.
Ascomycota	Erysiphaceae	<i>Phyllactinia paulowniae</i> Yu	m	22
		<i>Phyllactinia salmonii</i> S. Blumer	oo	22
			p	23
	<i>Uncinula clintonii</i> Peck	p	23	
	Mycosphaerellaceae	<i>Mycosphaerella corylea</i> (Pers.) Karst.	m	23
Basidiomycota	Platyglloeaceae	<i>Septobasidium tanakae</i> (Miyabe) Boedijn & B.A. Steinm.	p	23
Oomycota	Pythiaceae	<i>Phytophthora palmivora</i> (E.J. Butler) E.J. Butler	po	188
		<i>Pythium myriotylum</i> Drechsler	po	188
Anamorphic <i>Diplocarpon</i>		<i>Gloeosporium kawakamii</i> Miyabe	m	23
Anamorphic <i>Mycosphaerella</i>		<i>Cercospora paulowniae</i> Hori	o	23 [†]
		<i>Pseudocercospora paulowniae</i> Goh & W.H. Hsieh	oo	110
Anamorphic Mycosphaerellaceae		<i>Ascochyta paulowniae</i> Sacc. & Brunaud	m	23

[†] Regarded as synonym of *Pseudocercospora paulowniae* Goh & Hsieh

Arthropods

Order	Family	Species	H. R.	Ref.
Coleoptera	Cerambycidae		po	9
		<i>Batocera horsfieldi</i> (Hope)	po	85
			po	158
		<i>Batocera lineolata</i> Chevrolat	po	85
		<i>Dere thoracica</i> White	po	85
		<i>Dorysthenes hydropicus</i> Pascoe	po	85
		<i>Dorysthenes paradoxus</i> (Faldermann)	po	85
		<i>Megopis sinica</i> White	po	85
		<i>Xylotrechus grayii</i> (White)	po	9
			po	85
	Cetoniidae	<i>Glycyphana horsfieldi</i> (Hope)	po	65
	Chrysomelidae	<i>Aulacophora nigripennis</i> Motschulsky	po	85
		<i>Gallerucida bifasciata</i> Motschulsky	mo	85
		<i>Hemipyxis chinensis</i> (Weise)	mo	140
		<i>Hemipyxis jeanneli</i> (Chen)	po	185
			po	65
		<i>Hemipyxis plagioderoides</i> (Motschulsky)	mo	85
	po	185		
	<i>Oides bowringii</i> (Baly)	po	85	

		<i>Oides tarsatus</i> (Baly)	po	85	
		<i>Paleosepharia fulvicornis</i> Chen	po	85	
		<i>Pseudespera paulowniae</i> Jiang	oo	140	
	Crioceridae		<i>Sagra femorata purpurea</i> Lichtenstein	po	85
			<i>Sagra fulgida janthina</i> Chen	po	85
	Curculionidae		<i>Phytoscaphus gossypii</i> Chao	po	85
			<i>Piazomias fausti</i> Frivaldszky	mo	85
			<i>Piazomias validus</i> Mostchulsky	po	2
			<i>Scythropus yasumatsui</i> Kono et Morimoto	po	2
	Eumolpidae			po	85
			<i>Nodina tibialis</i> Chen	po	139
				po	140
	Hispididae		<i>Basiprionota bisignata</i> (Boheman)	po	158
				po	65
				po	65
			<i>Basiprionota chinensis</i> (Fabricius)	mo	85
				po	140
				po	140
				po	158
			<i>Basiprionota whitei</i> (Boheman)	po	85
	<i>Laccoptera quadrimaculata</i> (Thunberg)	po	85		
Lucanidae		<i>Aegus laevicollis</i> Saunders	po	65	
		<i>Aegus parallelus</i> Hope et Westwood	po	85	
Meloidae		<i>Epicauta sibirica</i> Pallas	po	85	
Melolonthidae		<i>Holotrichia trichophora</i> (Fairmaire)	po	85	
			po	85	
		<i>Maladera ovatula</i> (Fairmaire)	po	85	
Rutelidae		<i>Anomala antiqua</i> (Gyllenhal)	po	85	
Scolytidae		<i>Ambrosiodmus rubricollis</i> (Eichhoff)	po	65	
Hemiptera	Berytidae	<i>Gampsocoris pulchellus</i> (Dallas)	mo	85	
			po	192	
		<i>Yemma signatus</i> (Hsiao)	mo	85	
	Coreidae		<i>Cletus tenuis</i> Kiritshenko	po	85
	Miridae		<i>Gallobellicus crassicornis</i> Distant	po	192
			<i>Nesidiocoris tenuis</i> (Reuter)	mo	85 ¹
	Pentatomidae		<i>Dalpada cinctipes</i> Walker	po	65
				po	65
		<i>Dolycoris baccarum</i> (Linnaeus)	po	192	

		<i>Erthesina fullo</i> (Thunberg)	po	85
			po	192
		<i>Eurostus grossipe</i> Dallas	po	65
		<i>Eurostus validus</i> Dallas	po	85
		<i>Lamprocoris royliei</i> (Westwood)	mo	65
		<i>Laprius varicornis</i> (Dallas)	po	65
			po	85
		<i>Menida metalliea</i> Hsiao et Cheng	m	193
		<i>Menida scotti</i> Puton	po	193
		<i>Plautia fimbriata</i> (Fabricius)	po	85
			po	192
		<i>Rubiconia peltata</i> Jakovlev	mo	85
		<i>Stollia guttiger</i> (Thunberg)	po	85
			po	192
Tingidae	<i>Eteoneus angulatus</i> Drake et Maa	mo	85	
		m	192	
Homoptera	Cicadellidae	<i>Empoasca flavescens</i> (Fabricius)	po	85
		<i>Hishimonus sellatus</i> (Uhler)	po	132
		<i>Tettigoniella ferruginea</i> (Fabricius)	po	85 ^{II}
		<i>Tettigoniella viridis</i> (Linné)	po	85 ^{III}
	Cicadidae	<i>Oncotympana maculaticollis</i> (Motschulsky)	po	85
			po	158
	Diaspididae	<i>Pseudaulacaspis pentagona</i> (Targioni-Tozzetti)	po	85
			po	158
	Margarodidae	<i>Drosicha corpulenta</i> (Kuwana)	po	85
	Membracidae	<i>Jingkara hyalipunctata</i> Chou	po	85
Ricaniidae	<i>Ricania sublimbata</i> Jacobi	po	85	
Isoptera	Termitidae	<i>Macrotermes barneyi</i> Light	po	85
Lepidoptera	Arctiidae	<i>Hyphantria cunea</i> (Drury)	po	41
		<i>Lemyra melli</i> (Daniel)	po	41
			po	141 ^{IV}
		<i>Lemyra proteus</i> (DE Joannis)	po	41
	Eupterotidae	<i>Eupterote chinensis</i> Leech	po	85
	Geometridae	<i>Ascotis selenaria dianaria</i> Hübner	po	85
		<i>Biston marginata</i> Matsumura	po	85
		<i>Culcula panterinaria</i> (Bremer et Grey)	po	65
po			85	

			po	158
		<i>Odontopera aurata</i> (Prout)	po	158
Hepialidae		<i>Phassus excrescens</i> Butler	po	85
		<i>Phassus sinifer sinensis</i> Moore	po	85
Limacodidae		<i>Latoia hilarata</i> (Staudinger)	po	85 ^v
		<i>Parasa consocia</i> Walker	po	85
			po	65
		<i>Thosea sinensis</i> (Walker)	po	85
			po	158
Lymantriidae		<i>Dasychira grotei</i> Moore	po	65
			mo	85
		<i>Dasychira horsfieldi</i> Saunders	po	199
		<i>Euproctis bipunctapex</i> (Hampson)	po	141
		<i>Euproctis pseudoconspersa</i> Strand	po	85
		<i>Lymantria mathura</i> Moore	po	141
			po	158
		<i>Porthesia atereta</i> Collenette	po	65
			po	85
			po	158
		<i>Porthesia scintillans</i> (Walker)	po	65
			po	85
	Noctuidae		<i>Argyrogramma agnata</i> Staudinger	po
			po	85 ^{vi}
		<i>Artena dotata</i> (Fabricius)	po	85 ^{vii}
		<i>Euxoa oberthuri</i> Leech	po	85
		<i>Helicoverpa armigera</i> (Hübner)	po	85
		<i>Prodenia litura</i> (Fabricius)	po	85
		<i>Spodoptera exigua</i> (Hübner)	po	85 ^{viii}
Nymphalidae		<i>Junonia orithya</i> Linnaeus	po	158
Psychidae		<i>Chalia larminati</i> Heylaerts	po	141
		<i>Clania variegata</i> Snellen	po	85 ^{ix}
			po	141 ^x
			po	158
Pyralidae		<i>Dichocrocis chlorophanta</i> Butler	po	85
		<i>Mimicia pseudolibatrix</i> Caradja	m	65
			m	65
		<i>Pycnarmon cribrata</i> (Fabricius)	po	85
			m	141
			mo	145

	Saturniidae	<i>Attacus atlas</i> (Linnaeus)	po	65	
			po	207	
		<i>Eriogyna pyretorum cognata</i> Jordan	po	207	
		<i>Eriogyna pyretorum pyretorum</i> Westwood	po	207	
		<i>Samia cynthia</i> (Drury)	po	85 ^{XI}	
			po	207	
			<i>Samia cynthia insularis</i> (Vollendofen)	po	207
	Sphingidae		<i>Clanis bilineata tsingtauca</i> Mell	po	85
			<i>Dolbina tancrei</i> Staudinger	po	85
			<i>Parum colligata</i> (Walker)	po	85
			<i>Psilogramma increta</i> (Walker)	po	85
				po	85
				po	141
			<i>Psilogramma menephron</i> (Cramer)	po	206
			po	208	
		<i>Theretra oldenlandiae</i> (Fabricius)	po	85	
	Tortricidae	<i>Homona coffearia</i> (Nietner)	po	85	
Orthoptera	Pyrgomorphidae	<i>Atractomorpha sinensis</i> I. Bolivar	po	85	
Thysanoptera	Thripidae	<i>Selenothrips rubrocinctus</i> (Giard)	po	65	
		<i>Thrips andrewsi</i> (Bagnall)	mo	85	

- I Recorded as *Cyrtopeltis tenius* Reuter
 II Recorded as *Tettigella ferruginea* (Fabricius)
 III Recorded as *Cicadella viridis* Linnaeus
 IV Recorded as *Spilarctia melli* Daniel
 V Recorded as *Parasa hilarata* (Staudinger)
 VI Recorded as *Plusia agnata* Staudinger
 VII Recorded as *Laceoptera dotata* Fabricius
 VIII Recorded as *Laohygama exigua* Hübner
 IX Recorded as *Cryptothelea variegata* Snellen
 X Recorded as *Eumeta variegata* Snellen
 XI Recorded as *Philosamia cynthia* Walker et Felder