

Melia azedarach

Chinaberry tree

Introduction

The genus *Melia* contains three species that occur primarily in tropical and subtropical regions of the Eastern hemisphere. Two species have been recorded from China in provinces south the of Yellow River^[7].

Species of *Melia* in China

Scientific Name
<i>M. azedarach</i> L.
<i>M. toosendan</i> Sieb. et Zucc.

Taxonomy

Order: Rutales

Suborder: Rutineae

Family: Meliaceae

Subfamily: Melioideae Harms

Tribe: Melieae Harms

Genus: *Melia* L.

Species: *Melia azedarach* L.

Description

Melia azedarach is a deciduous tree with spreading branches that can reach up to 10 m in height. The bark is grayish brown and longitudinally fissured. Leaves are odd bipinnate or tripinnate compounds, about 20-40 cm in length. Leaflets are opposite, ovate, elliptic to lanceolate, 3-7 cm long and 2-3 cm wide, shortly acuminate in the apex, cuneate or broadly so at the slightly asymmetrical base, with a crenulate serrate margin. The leaflets are covered with stellate hairs when young, becoming glabrescent with 12-16 pairs of ascending, spreading lateral veins. The panicles are about equal to the leaf in length, glabrous, glabrescent scaly or pubescent. Calyxes are five-lobed. Each lobe is ovate to oblong, with an acute apex. Petals are light purple, obovately spatulate, both surfaces are puberulous, and about 1 cm long. Stamens are monadelphous, purplish, glabrous or nearly so, 7-8



mm long, vertically striped, and 10 bi- or tri-denticulately lobed. Each lobe bears one anther on the inner wall. The ovary is subglobose, glabrous, containing 5-6 locules, with 2 ovules each. The fragrant flowers appear in April through May, the fruits, which are toxic, appear in October through September. They are globose to elliptic drupes 1-2 cm long and 8-15 mm wide, 4-5 locules, each containing a single seed^[7].

Habitat

Melia azedarach occurs in low elevation open fields, roadsides, or sparse forests. Due to its high economic value, *M. azedarach* is cultivated in many areas. *M. azedarach* prefers a moist, fertile soil^[7].

Distribution

M. azedarach has a wide distribution in provinces south of the Yellow River^[7]. It has been reported from Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang



provinces and cultivated in Hebei.

Economic Importance

The sapwood of *M. azedarach* is used in building construction and furniture making. The fresh leaves are used as an insect repellent. The roots and fruit are medically useful^[7].

Related Species

The other *Melia* species reported in China is *M. toosendan* Sieb. & Zucc. It has a 6-8 locule ovary, drupes about 3 cm long, and a nearly entire leaf margin. The inflorescence is half the length of the leaf. It prefers moist soil in the fertile mixed forests of Guizhou, Gansu, Hubei, Sichuan, and Yunnan^[7].

Natural Enemies of *Melia*

Eight fungal species have been reported on members of the genus *Melia*, and seven on *M. azedarach*. *Melanconium meliae* Teng and *Cercospora meliae* Ellis & Everh. have only one host record. Fifty six species of arthropods have been



found on members of the genus *Melia*, mainly on *M. azedarach*. Among them, two monophagous leafhoppers *Elbelus melianus* Kuoh and *Erythroneura melia* Kuoh, cause significant damage^[118, 203].

Fungi

Phylum	Family	Species	H. R.	Ref.
Ascomycota	Erysiphaceae	<i>Phyllactinia guttata</i> (Wallr.) Lév.	p	[26]I
Basidiomycota	Hymenochaetaceae	<i>Phellinus torulosus</i> (Pers.) Bourdot & Galzin	p	[26]
	Incertae sedis	<i>Phellinus williamsii</i> (Murrill) Pat.	p	[26]
	Polyporaceae	<i>Coriolus unicolor</i> (Bull.) Pat.	po	[26]
Anamorphic <i>Lewia</i>		<i>Alternaria tenuissima</i> (Kunze) Wiltshire	p	[209]
Anamorphic <i>Melanconis</i>		<i>Melanconium meliae</i> Teng	m	[26]
Anamorphic <i>Mycosphaerella</i>		<i>Cercospora meliae</i> Ellis & Everh.	m	[26]
		<i>Pseudocercospora subsessilis</i> (Syd. & P. Syd.) Deighton	o	[129]
			m	[26]II

^IRecorded as *Phyllactinia corylea* (Pers.) Karst.

^{II}Recorded as *Cercospora subsessilis* H. et P. Syd.

Arthropods

Order	Family	Species	H. R.	Ref	
Acariformes	Eriophyidae	<i>Panonychus citri</i> (McGregor)	p	[75]	
			p	[94]	
	Tetranychidae	<i>Tetranychus</i> sp.	p	[75]	
			<i>Tetranychus urticae</i> (Koch)	p	[94]
Coleoptera	Cerambycidae	<i>Anoplophora chinensis</i> (Förster)	p	[165]	
			p	[94]	
			p	[75]	
		<i>Anoplophora glabripennis</i> (Motschulsky)	p	[94]	
		<i>Anoplophora horsfieldi</i> (Hope)	p	[94]	
		<i>Batocera davidis</i> Deyrolle	p	[94]	
		<i>Batocera lineolata</i> Chevrolat	p	[94]	
		<i>Ceresium sinicum</i> White	p	[94]	
		<i>Embrik-strandia unifasciata</i> (Ritsema)	p	[94]	
		<i>Purpuricenus spectabilis</i> Motschulsky	p	[94]	
	<i>Rhytidodera bowringii</i> White	p	[94]		
	Cetoniidae	<i>Cetonia pilifera</i> Motschulsky	p	[94]	
	Curculionidae	<i>Chlorophanus auripes</i> Faust	p	[94]	
	Eumolpidae	<i>Basilepta sinarum</i> Weise	p	[75]	
	Melolonthidae		<i>Holotrichia diomphalia</i> Bates	p	[94]
			<i>Holotrichia lata</i> Brenske	p	[94]
<i>Holotrichia sinensis</i> Hope			p	[94]	
<i>Polyphylla laticollis</i> Lewis			p	[94]	
Hemiptera	Acanthosomatidae	<i>Elasmucha nipponica</i> (Esaki & Ishihara)	p	[208]	
	Pentatomidae	<i>Chrysocoris grandis</i> (Thunberg)	p	[207]	
			p	[94]	
		<i>Dalpada cinctipes</i> Walker	p	[75]	
		<i>Plautia crossota</i> (Dallas)	p	[75]	
		<i>Rhaphigaster genitalia</i> (Fabricius)	p	[208]	

Order	Family	Species	H. R.	Ref	
Homoptera	Aleyrodidae	<i>Dialeurodes citri</i> (Ashmead)	p	[94]	
	Cicadellidae	<i>Cicadula</i> sp.	m	[94]	
		<i>Elbelus melianus</i> Kuoh	n/a	[203]	
		<i>Erythroneura melia</i> Kuoh	m	[118]	
		<i>Nephotettix cincticeps</i> Uhler	m	[94]	
		<i>Cryptotympana atrata</i> (Fabricius)	p	[94]	
	Cicadidae	<i>Ceroplastes floridensis</i> Comstock	p	[173]	
		<i>Ceroplastes japonicus</i> Green	p	[94]	
	Diaspididae	<i>Lepidosaphes tubulorum</i> Ferris	p	[94]	
		<i>Parlatoria camelliae</i> Comstock	p	[94]	
	Fulgoridae	<i>Lycorma delicatula</i> (White)	p	[220]	
			p	[94]	
	Ricaniiidae	<i>Ricania speculum</i> (Walker)	p	[220]	
			p	[94]	
Hymenoptera	Eurytomidae	<i>Eurytoma plotnikovi</i> Nikolskaya	p	[94]	
Lepidoptera	Geometridae	<i>Ascotis selenaria dianaria</i> Hübner	p	[94]	
		<i>Ophthalmitis albosignaria</i> (Bremer & Grey)	p	[189] ^I	
	Hepialidae	<i>Phassus sinifer sinensis</i> Moore	p	[94]	
	Limacodidae	<i>Monema flavescens</i> Walker	p	[75]	
			p	[94] ^{II}	
			<i>Setora postornata</i> (Hampson)	p	[94]
			<i>Thosea sinensis</i> (Walker)	p	[75]
	Noctuidae	<i>Episparis liturata</i> (Fabricius)	m	[94]	
			<i>Grammodes geometrica</i> (Fabricius)	p	[94] ^{III}
	Sphingidae	<i>Psilogramma increta</i> (Walker)	p	[94]	
			<i>Psilogramma menephron</i> (Cramer)	p	[94]
Tortricidae	<i>Enarmonia koenigana</i> Fabricius	m	[94]		
Parasitiformes	Phytoseiidae	<i>Amblyseius okinawanus</i> Ehara	p	[75]	
		<i>Amblyseius orientalis</i> Ehara	p	[75]	
		<i>Euseius ovalis</i> (Evans)	p	[75]	
Thysanoptera	Phlaeothripidae	<i>Haplothrips chinensis</i> Priesner	p	[75]	
			p	[94]	
	Thripidae	<i>Scirtothrips dorsalis</i> Hood	p	[66]	
		<i>Thrips coloratus</i> Schmutz	p	[75]	
		<i>Thrips flavidulus</i> Bagnall	p	[75]	
<i>Thrips formosanus</i> Priesner	po	[66]			

^IRecorded as *Ophthalmodes albosignaria* (Bremer et Grey)

^{II}Recorded as *Cnidocampa flavescens* (Walker)

^{III}Recorded as *Chalciope geometrica* Fabricius