

# *Celastrus orbiculatus*

## Oriental bittersweet

### Introduction

There are approximately 30 species in the genus *Celastrus* distributed throughout the tropic and subtropic regions worldwide. In China, 24 species and 2 varieties of *Celastrus* have been reported, primarily south of the Yellow River<sup>[14]</sup>.

### Species of *Celastrus* in China†



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Colorful fruits of *Celastrus orbiculatus*. (Photo by Jil W. Swearingen, USDI-NPS.)

Scientific Name	Scientific Name
<i>C. aculeatus</i> Merr.	<i>C. kusanoi</i> Hayata
<i>C. angulatus</i> Maxim.	<i>C. monospermus</i> Roxb.
<i>C. cuneatus</i> (Rehd. et Wils.) C. Y. Cheng et T. C. Kao <i>C. flngellaris</i> Rupr.	<i>C. oblanceifolius</i> Wang et Tsoong
<i>C. gemmatus</i> Loes.	<b><i>C. orbiculatus</i></b> Thunb.
<i>C. glaucophyllus</i> Rehd. et Wils.	<i>C. paniculatus</i> Willd.
<i>C. hindsii</i> Benth.	<i>C. punctatus</i> Thunb.
<i>C. hirsutus</i> Comber	<i>C. rosthornianus</i> Loes.
<i>C. homaliifolius</i> Hsu	<i>C. rugosus</i> Rehd. et Wils.
<i>C. hookeri</i> Prain	<i>C. stylosus</i> Wall.
<i>C. hypoleucoides</i> P. L. Chiu	<i>C. tonkinensis</i> Pitard
<i>C. hypoleucus</i> (Oliv.) Warb. ex Loes.	<i>C. vaniotii</i> (Lévl.) Rehd.
<i>C. virens</i> (Wang et Tang) C. Y. Cheng et T. C. Kao	

† varieties not listed

Shandong, Shaanxi, Shanxi, Sichuan, and Zhejiang<sup>[14]</sup>, Guangxi<sup>[50]</sup>, Hunan<sup>[126]</sup>, and Inner Mongolia<sup>[45][120]</sup>. It is cultivated in Xinjiang<sup>[175]</sup>.

### Economic Importance

Fruits are considered to be medically helpful. The bark is a source of fine fiber. Containing 50 percent oil, the seeds are industrially useful. *C. orbiculatus* can be used as an insect control agent<sup>[74]</sup> and it is also cultivated as an ornamental<sup>[130]</sup>. It is not regarded as a noxious weed in China.

### Taxonomy

Family: Celastraceae

Genus: *Celastrus* L.

### Description

*Celastrus orbiculatus* is a deciduous woody vine. The smooth branches are greyish white or brown to darker brown at maturity, with a few inconspicuous lenticels. Leaves are broadly obovate, circular, or oblong, measuring 5-13 cm in length and 3-9 cm in width, with toothed margins, apiculate apex, and a broadly cuneate or nearly obtuse base. Greenish-yellow flowers are produced from May to June, either terminally or in the leaf axils. Occurring from

July through October, fruits are round, yellow-orange capsules, 8-10 mm in diameter. They open when mature to expose the reddish-brown, ovate seeds, 4-5 mm in length and 2.5-3 mm in diameter<sup>[14]</sup>.

### Habitat

*C. orbiculatus* usually occurs in thickets on hillsides at elevations of 450-2,200 m<sup>[14]</sup>.

### Distribution

*C. orbiculatus* is one of the *Celastrus* species that has a wide distribution in China. It can be found in Anhui, Gansu, Hebei, Heilongjiang, Henan, Hubei, Jiangsu, Jiangxi, Jilin, Liaoning,

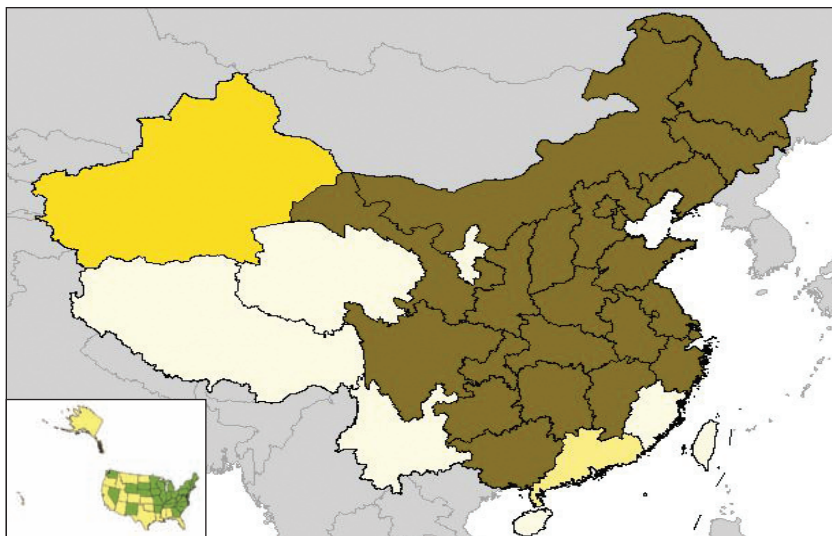


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*Celastrus orbiculatus* leaves. (Photo by James H. Miller, USDA Forest Service.)

### Natural Enemies of *Celastrus*

Records of natural enemies associated with the genus *Celastrus* are poor. There are only three fungal species reported to infect it. *Uncinula sengokui* is host-specific to *C. orbiculatus* [22][23]. Six arthropod species have been reported to cause damage to oriental bittersweet, and two of them may be host-specific.



Phylum	Family	Species	H. R.	Ref.
Ascomycota	Erysiphaceae	<i>Microsphaera celastris</i> Y.N. Yu & Y.Q. Lai	mo	22
		<i>Uncinula sengokui</i> E.S. Salmon	m	22
			m	23
	Meliolaceae	<i>Amazonia celastris</i> Y.X. Hu & B. Song	oo	133

### Arthropods

Order	Family	Species	H. R.	Ref.
Coleoptera	Scolytidae	<i>Hypothenemus eruditus</i> Westwood	o	134
Hemiptera	Coreidae	<i>Plinactus bicoloripes</i> Scott	m	193
Homoptera	Aphididae	<i>Aphis clerodendri</i> Matsumura	p	100
	Diaspididae	<i>Unaspis euonymi</i> (Comstock)	p	131
	Triozidae	<i>Triozella celastrae</i> Li	m	90
Lepidoptera	Yponomeutidae	<i>Yponomeuta sociatus</i> Moriuti	o	114