

Berberis thunbergii Japanese barberry

Introduction

With approximately 500 thorny members worldwide, the genus *Berberis*, commonly known as barberry, is widely distributed in the temperate regions of the northern hemisphere. In China, more than 250 species have been reported from western and southwestern regions^[183].

Species of *Berberis* in China

(See table at end of chapter)

Taxonomy

Family: Berberidaceae

Genus: *Berberis* Linn.

Description

Berberis thunbergii D C. is a deciduous branched shrub that can reach 1 m in height. Grooved or angled twigs are glabrous and pinkish-green when young, turning reddish-pink at maturity. The solitary or trifurcate stem has spines at each node with the internode being 1-1.5 cm. The papery leaves are obovate, spatulate, or spoon shaped, 1-2 cm long and 5-2 mm wide, apiculate or obtuse apically and cuneate at the base, with entire margin. Usually in small clusters of two to five blossoms, flowers are grayish yellow with two glands near the base of the obovate petal, and appear from April to June. Fruits are bright red elliptic berries, 8 mm long and 4 mm in diameter, appearing from July to October^[183].

Habitat and Distribution

B. thunbergii is widely planted nationwide, mainly in the northern cities^[183], therefore, no map of the Chinese distribution is available.



Leaves and fruits of *Berberis thunbergii*. (Photo by Jil W. Swearingen, USDI, (NPS) National Park Service.)

Economic Importance

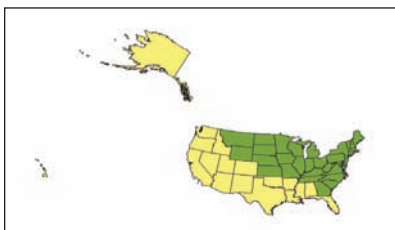
Famous for its brilliant fall colors, Japanese barberry is commonly grown as an ornamental plant. Stems and roots are rich in berberine. Branches and leaves are reported to be helpful in treating conjunctivitis; the roots can be used for invigorating the stomach and for making yellow dye^[183].

Related Species

B. amurensis Rupr. is commonly seen in China. It occurs at an elevation of 1100-2850 m in mountainous thickets, valleys, forest edges, sparse forest, or along stream banks. It is distributed in Gansu, Hebei, Heilongjiang, Henan, Jilin, Liaoning, Inner Mongolia, Shaanxi, Shandong, and Shanxi provinces^[183].

Natural Enemies of *Berberis*

Twelve species and one variety of fungi and 22 insect species are reportedly associated with *Berberis* plants. Of them, two fungi and two insects may attack *Berberis thunbergii*.



Fungi

Phylum	Family	Species	H.R.	Ref.
Ascomycota	Erysiphaceae	<i>Microsphaera penicillata</i> (Wallr.) Lév.	po	23
		<i>Microsphaera berberidicola</i> F.L. Tai	oo	22
			mo	22†
			oo	23
		<i>Microsphaera berberidis</i> (DC.) Lév.	oo	23
		<i>Microsphaera berberidis</i> var. <i>berberidis</i> (DC.) Lév.	o	22
		<i>Microsphaera divaricata</i> (Wallr.) Lév.	po	23
		<i>Microsphaera grossulariae</i> (Wallr.) Lév.	po	23
<i>Microsphaera multappendicis</i> Z.Y. Zhao & Y.N. Yu	mo	22		
<i>Microsphaera sichuanica</i> Y.N. Yu	mo	22		
Basidiomycota	Incertae sedis	<i>Aecidium nitakense</i> Hirats.	mo	23
	Pucciniaceae	<i>Puccinia culmicola</i> Dietel	po	23
		<i>Puccinia graminis</i> Pers.	p	23
			po	149
		<i>Puccinia pygmaea</i> Erikss.	po	149
	Pucciniastraceae	<i>Uredo clemensiae</i> (Arthur & Cummins) Hirats. f.	po	23

† Recorded as *Microsphaera berberidicola* (DC.) Lev. var. *dimorpha* Yu et Z. Y.

Arthropods

Order	Family	Species	H. R.	Ref.	
Coleoptera	Cerambycidae	<i>Cacia cretifera</i> Hope	po	124	
			po	140	
	Chrysomelidae	<i>Aphthona varipes</i> Jacoby	oo	140	
			<i>Orhespera glabricollis</i> Chen et Wang	oo	140
				oo	185
			<i>Orhespera impressicollis</i> Chen et Wang	oo	140
			<i>Sphenoraia berberii</i> Jiang	oo	140
			<i>Sphenoraia yajiangensis</i> Jiang	mo	140
			<i>Stenoluperus nipponensis</i> (Laboissiere)	po	65
	po	140			
	Megalopodidae	<i>Zeugophora cyanea</i> Chen	po	140	
Scolytidae	<i>Xyleborus brevis</i> Eichhoff	po	182		
Hemiptera	Acanthosomatidae	<i>Elasmotethus brevis</i> Lindberg	oo	193	
Homoptera	Coccidae	<i>Ceroplastes japonicus</i> Green	po	65	
			po	140	
			po	151	
Pseudococcidae	<i>Phenacoccus prodigialis</i> Ferris	oo	150		

Lepidoptera	Noctuidae	<i>Euscotia inextricata</i> (Moore)	oo	209	
	Pieridae	<i>Aporia agathon</i> (Gray)	po	203	
		<i>Aporia hippia</i> (Bremer)	po	203	
		<i>Aporia leucodice</i> (Eversmann)	po	203	
	Saturniidae	<i>Attacus atlas</i> (Linnaeus)	po	65	
			po	207	
	Sphingidae	<i>Rhagastis mongoliana centrosinaria</i> Chu et Wang	po	65	
			<i>Rhagastis mongoliana mongoliana</i> (Butler)	po	65
				p	208
				po	141
			<i>Rhagastis mongoliana pallicosta</i> Mell	po	206
				p	208
	Tortricidae	<i>Pandemis ribeana</i> (Hübner)	po	113	
		<i>Pseudargyrotoza conwagana</i> (Fabricius)	po	66	

Species of *Berberis* in China

<i>B. aemulans</i> Schneid.	<i>B. aggregata</i> Schneid.	<i>B. agricola</i> Ahrendt
<i>B. alpicola</i> Schneid.	<i>B. amabilis</i> Schneid.	<i>B. amoena</i> Dunn
<i>B. amurensis</i> Rupr.	<i>B. angulosa</i> Wall. ex Hook. f et Thoms	<i>B. anhweiensis</i> Ahrendt
<i>B. anproxbota</i> Sprague	<i>B. arguta</i> (Franch) Schneid.	<i>B. aristato-serrulata</i> Hayata
<i>B. asmyana</i> Schneid.	<i>B. atrocarpa</i> Schneid.	<i>B. atroviridis</i> Ying
<i>B. batangensis</i> Ying	<i>B. beaniana</i> Schneid.	<i>B. beijingensis</i> Ying
<i>B. bergmanniae</i> Schneid.	<i>B. bicolor</i> Lévl.	<i>B. brachypoda</i> Maxim.
<i>B. bracteata</i> (Ahrendt) Ahrendt	<i>B. calcipratorum</i> Ahrendt	<i>B. campylotropa</i> Ying
<i>B. candidula</i> Schneid.	<i>B. cavaleriei</i> Lévl.	<i>B. centiflora</i> Diels
<i>B. chingii</i> Cheng	<i>B. chrysehaera</i> Mulligan	<i>B. chunanensis</i> Ying
<i>B. circumserata</i> (Schneid) Schneid.	<i>B. concinna</i> Hook. f. et Thoms.	<i>B. concolor</i> W. W. Smith
<i>B. contracta</i> Ying	<i>B. coryi</i> Veitch	<i>B. crrasilimba</i> C. Y. Wu ex S. Y. Bao
<i>B. daiana</i> Ying	<i>B. daochengensis</i> Ying	<i>B. dasystachya</i> Maxim.
<i>B. davidii</i> Ahrendt	<i>B. dawoensis</i> K. Meyer	<i>B. deinacantha</i> Schneid.
<i>B. derongensis</i> Ying	<i>B. diaphana</i> Maxin.	<i>B. dictyoneura</i> Schneid.
<i>B. dictyoPhylla</i> Franch.	<i>B. dielsiana</i> Fedde	<i>B. dongchuanensis</i> Ying
<i>B. dubia</i> Schneid	<i>B. dumicola</i> Schneid.	<i>B. erythroclada</i> Ahrendt
<i>B. everestiana</i> Ahrendt	<i>B. fallaciosa</i> Schneid.	<i>B. fallax</i> Schneid.
<i>B. farreri</i> Ahrendt	<i>B. feddeana</i> Schneid.	<i>B. fengii</i> S. Y. Bao
<i>B. ferdinandi-coburgii</i> Schneid	<i>B. forrestii</i> Ahrendt	<i>B. franchetiana</i> Schneid.
<i>B. francisci-ferdinandi</i> Schneid.	<i>B. fujianensis</i> C. M. Hu	<i>B. gilgiana</i> Fedde
<i>B. gilungensis</i> Ying	<i>B. gngnepainii</i> Schneid.	<i>B. graminea</i> Ahrendt
<i>B. griffithiana</i> Schneid.	<i>B. grodtmannia</i> Schneid.	<i>B. guizhouensis</i> Ying
<i>B. gyalaiica</i> Ahrendt	<i>B. haoi</i> Ying	<i>B. hayatana</i> Mizush.
<i>B. hemsleyana</i> Ahrendt	<i>B. henryana</i> Schneid.	<i>B. hersii</i> Ahrendt
<i>B. heteropoda</i> Schrenk.	<i>B. hobsonii</i> Ahrendt	<i>B. holocraspedon</i> Ahrendt
<i>B. honanensis</i> Ahrendt	<i>B. hsuyunensis</i> Hsiao et Sung	<i>B. humido-umbrosa</i> Ahrendt
<i>B. hypericifolia</i> Yins	<i>B. hypoxantha</i> C. Y. Wu ex S. Y. Bao	<i>B. ignorata</i> Schneid.
<i>B. iliensis</i> Popov.	<i>B. impedita</i> Schneid.	<i>B. insignis</i> subsp. <i>incrassata</i> (Ahrendt) Chamberlain et Hu
<i>B. insolita</i> Schneid.	<i>B. integripetala</i> Ying	<i>B. iteophylla</i> C. Y. Wu ex S. Y. Bao

<i>B. jamesiana</i> Forret et W. W. Smith	<i>B. jiangxiensis</i> C. M. Hu	<i>B. jingfushanensis</i> Ying
<i>B. jiulongensis</i> Ying	<i>B. johannis</i> Ahrendt	<i>B. julianae</i> Schneid.
<i>B. kangdinsensis</i> Ying	<i>B. kansuensis</i> Schneid.	<i>B. kaschgarica</i> Rupr.
<i>B. kawakamii</i> Hayata	<i>B. kerriana</i> Ahrendt	<i>B. kongboensis</i> Ahrendt
<i>B. kunmingensis</i> C. Y. Wu ex S. Y. Bao	<i>B. laojunshanensis</i> Ying	<i>B. leboensis</i> Ying
<i>B. lecomtei</i> Schneid.	<i>B. lempergiana</i> Ahrendt	<i>B. lepidifolia</i> Ahrendt
<i>B. levis</i> Franch.	<i>B. lijiangensis</i> C. Y. Wu ex S. Y. Bao	<i>B. liophylla</i> Schneid.
<i>B. longispina</i> Ying	<i>B. lubrica</i> Schneid.	<i>B. luhuoensis</i> Ying
<i>B. malipoensis</i> C. Y. Wu et S. Y. Bao	<i>B. medogensis</i> Ying	<i>B. mekongensis</i> W. W. Smith
<i>B. metapolyantha</i> Ahrendt	<i>B. miannigensis</i> Ying	<i>B. micropetala</i> Ying
<i>B. microtricha</i> Schneid.	<i>B. minutiflora</i> Schneid.	<i>B. morrisonensis</i> Hayata
<i>B. mouilicana</i> Schneid.	<i>B. muliensis</i> Ahrendt	<i>B. multicaulis</i> Ying
<i>B. multiovula</i> Ying	<i>B. multiserrata</i> Ying	<i>B. nemorosa</i> Schneid.
<i>B. nullinervis</i> Ying	<i>B. mutanticarpa</i> C. Y. Wu ex S. Y. Bao	<i>B. obovatifolia</i> Ying
<i>B. pallens</i> Franch.	<i>B. papillifera</i> (Franch.) Koehne	<i>B. parapruinosa</i> Ying
<i>B. paraspecta</i> Ahrendt	<i>B. parisepala</i> Ahrendt	<i>B. pectinocrapedon</i> C. Y. Wu ex S. Y. Bao
<i>B. phanera</i> Schneid.	<i>B. photiniaefolia</i> C. M. Hu	<i>B. pingbienensis</i> S. Y. Bao
<i>B. pingwuensis</i> Ying	<i>B. pinshanensis</i> Sung et Hsiao	<i>B. platyphylla</i> (Ahrendt) Ahrendt
<i>B. poiretii</i> Schneid.	<i>B. polyantha</i> Hemsl.	<i>B. potaninii</i> Maxim.
<i>B. prattii</i> Schneid.	<i>B. pruinocarpa</i> C. Y. Wu ex S. Y. Bao	<i>B. pruinosa</i> Franch.
<i>B. pseudoamoena</i> Ying	<i>B. pseudo-tibetica</i> C. Y. Wu ex S. Y. Bao	<i>B. pubescens</i> Pamp.
<i>B. pulangensis</i> Ying	<i>B. purdomii</i> Schneid.	<i>B. qiaoaensis</i> S. Y. Bao
<i>B. racemulosa</i> Ying	<i>B. replicata</i> W. W. Smith	<i>B. reticulata</i> Byhouw.
<i>B. reticulineris</i> Ying	<i>B. retusa</i> Ying	<i>B. sabulicola</i> Ying
<i>B. salicaria</i> Fedde	<i>B. sanguinea</i> Franch.	<i>B. sargentiana</i> Schneid.
<i>B. shensiana</i> Ahrendt	<i>B. sherriffii</i> Ahrendt	<i>B. sibirica</i> Pall.
<i>B. sichuanica</i> Ying	<i>B. sikkimensis</i> (Schneid.) Ahrendt	<i>B. silva-taroucana</i> Schneid.
<i>B. silvicola</i> Schneid.	<i>B. soulieana</i> Schneid.	<i>B. stenostachya</i> Ahrendt
<i>B. subacuminata</i> Schneid.	<i>B. subholophylla</i> C. Y. Wu	<i>B. sublevis</i> W. W. Smith
<i>B. taliensis</i> Schneid.	<i>B. taronensis</i> Ahrendt	<i>B. temoica</i> Ahrendt
<i>B. tenuipedicellata</i> Ying	<i>B. thunbergii</i> DC.	<i>B. tianshuiensis</i> Ying
<i>B. tischleri</i> Schneid.	<i>B. tomentulosa</i> Ahrendt	<i>B. triacanthophora</i> Fedde
<i>B. trichiata</i> Ying.	<i>B. tsarica</i> Ahrendt	<i>B. tsarongensis</i> Stapf
<i>B. tsienii</i> Ying	<i>B. ulicina</i> Hook. f. et Thoms.	<i>B. umbratica</i> Ying
<i>B. valida</i> (Schneid.) Schneid.	<i>B. veitchii</i> Schneid.	<i>B. verna</i> Schneid.
<i>B. vernalis</i> (Schneid.) Chamberlain et C. M. Hu	<i>B. verruculosa</i> Hemsl.	<i>B. vinifera</i> Ying
<i>B. virescens</i> Hook. f. et Thoms.	<i>B. virgetorum</i> Schneid.	<i>B. wangii</i> Schneid.
<i>B. weiningensis</i> Ying	<i>B. weixiensis</i> C. Y. Wu ex S. Y. Bao	<i>B. weixinensis</i> S. Y. Bao
<i>B. wilsonae</i> Hemsl.	<i>B. woomungensis</i> C. Y. Wu ex S. Y. Bao	<i>B. wuliangshanensis</i> C. Y. Wu ex S. Y. Bao
<i>B. wuyiensis</i> C. M. Hu	<i>B. xanthoclada</i> Schneid.	<i>B. xanthophloea</i> Ahrendt
<i>B. xingwensis</i> Ying	<i>B. yuii</i> Ying	<i>B. yunnanensis</i> Franch.
<i>B. zanlanscianensis</i> Pamp.	<i>B. ziyunensis</i> Hsiao et Z. Y. Li	