

Cirsium arvense

Canada thistle

Introduction

The genus *Cirsium* is comprised of approximately 250–300 species distributed in Asia, Europe, North Africa, and both North and Central America. More than 50 species belonging to eight sections have been reported from China^[104].

Species of *Cirsium* in China



Flowers of *Cirsium arvense*. (Photo by Chris Evans, UGA.)

Scientific Name	Scientific Name
<i>C. alatum</i> (S. G. Gmel.) Bobr.	<i>C. leo</i> Nakai. et. Kitag.
<i>C. alberti</i> Rgl. et Schmalh.	<i>C. lidjiangense</i> Petrak ex Hand.-Mazz.
<i>C. argyranctanthum</i> DC.	<i>C. lineare</i> (Thunb.) Sch.-Bip.
<i>C. arvense</i> (L.) Scop.	<i>C. maackii</i> Maxim.
<i>C. bracteiferum</i> Shih	<i>C. monocephalum</i> (Vant.) Lévél.
<i>C. chinense</i> Gardn. et Champ.	<i>C. muliense</i> Shih
<i>C. chlorolepis</i> Petrak	<i>C. pendulum</i> Fisch. ex DC.
<i>C. chrysolepis</i> Shih	<i>C. periacanthaceum</i> Shih
<i>C. eriophoroides</i> (Hook. f.) Petrak	<i>C. racemiforme</i> Ling et Shih
<i>C. esculentum</i> (Sievers) C. A. Mey.	<i>C. sairamense</i> (C. Winkl.) O. et B. Fedtsch.
<i>C. fangii</i> Petrak.	<i>C. salicifolium</i> (Kitag.) Shih
<i>C. fanjingshanense</i> Shih	<i>C. schantarense</i> Trautv. et Mey.
<i>C. fargesii</i> (Franch.) Diels	<i>C. semenovii</i> Rgl. et Schmalh.
<i>C. fusco-trichum</i> Chang	<i>C. serratuloides</i> (L.) Hill
<i>C. glabrifolium</i> (C. Winkl.) O. et B. Fedtsch.	<i>C. setosum</i> (Willd.) MB.
<i>C. griseum</i> Lévél.	<i>C. shansiense</i> Petrak
<i>C. handelii</i> Petrak ex Hand.-Mazz.	<i>C. sieversii</i> (Fisch. et Mey.) Petrak
<i>C. helenioides</i> (L.) Hill	<i>C. souliei</i> (Franch.) Mattf.
<i>C. henryi</i> (Franch.) Diels	<i>C. subulariforme</i> Shih
<i>C. hupehense</i> Pamp.	<i>C. tenuifolium</i> Shih
<i>C. incanum</i> (S. G. Gmel.) Fisch. ex MB.	<i>C. tianmushanicum</i> Shih
<i>C. interpositum</i> Petrak	<i>C. vernonioides</i> Shih
<i>C. japonicum</i> Fisch. ex DC.	<i>C. verutum</i> (D. Don) Spreng.
<i>C. lanatum</i> (Roxb. ex Willd.) Spreng.	<i>C. vlassovianum</i> Fisch. ex DC.
<i>C. leducei</i> (Franch.) Lévél.	<i>C. vulgare</i> (Savi) Ten.

Taxonomy

Family: Compositae
(Asteraceae)
Genus: *Cirsium* Mill.

Description

Cirsium arvense is a dioecious,

herbaceous perennial 50 - 160 cm tall with creeping rootstock and erect stem, branched near the top. Leaves are green, concolorous or lighter on the lower side, and glabrous or very sparsely arachnoid on the lower side. Leaves of the lower stems are elliptic

or elliptic-lanceolate, 7-17 cm long and 1.5-4.5 cm wide, pinnatifid, with a short petiole. Leaf margins are dentate with two to three spines bearing spinules 5 mm long. The upper leaves are sessile, similar in division to the lower stem leaves, but turning slightly upwards on the stem. Most heads are arranged terminally in an umbel. The involucre is ovate or ovate-oblong, sparsely arachnoid or glabrous, 1.5-2 cm in diameter. Five rows of bracts are imbricate, spinule-bearing, and different in shape. Florets have purplish-red corollas and filiform tubes. Fruits (achenes) are light yellow, cylindroid, cuneate at tip, with dirty white to brownish pappus, and appear from June to September^[104].

Habitat and Distribution

C. arvense can be found in moist places by ditches or lakesides, in cropfields, wastelands, sands, grasslands, and arid hillsides in the deserts, at elevations of 700-4,250 m in Gansu, Xinjiang, and Tibet^{[104][112]}.

Economic Importance

The economic impact of the plant has not been evaluated, although the damage to host sites is obvious. In some areas of Xinjiang, the plant has invaded croplands, vegetable plots, and prairie, causing serious yield declines^[27].

Related Species

With a nationwide distribution, *C. japonicum*, a common species in China, occurs at edges of forests, in thickets, grasslands, farmlands, wastelands, roadsides, streamsides, and in forests at elevations of 400-2,100 m^[104].

Natural Enemies of *Cirsium*

Seventeen fungi, and 42 insect species belonging to 19 families of 6 orders have been found on members of the genus *Cirsium*. The investigation of natural enemy insects of *C. arvense* in Xinjiang was conducted in the early 1990s. Data indicate that eleven species, including one unidentified Mordellidae species (not listed in the following table), were found to occur on the plant, with four causing serious negative effects and



therefore being regarded as potential biological control agents against *C.*

Fungi

Phylum	Family	Species	H.R.	Ref.
Ascomycota	Erysiphaceae	<i>Erysiphe cichoracearum</i> DC.	po	22
		<i>Sphaerotheca fuliginea</i> (Schltl.) Pollacci	p	23
		<i>Sphaerotheca fusca</i> (Fr.) S. Blumer	o	22
	Sclerotiniaceae	<i>Sclerotinia sclerotiorum</i> (Lib.) de Bary	po	23
Basidiomycota	Pucciniaceae	<i>Puccinia cirsii</i> Lasch	o	23
		<i>Puccinia cirsii-maritimi</i> Dietel	oo	23
		<i>Puccinia dioicae</i> Magnus	po	23
		<i>Puccinia dioicae</i> Magnus	po	149
		<i>Puccinia infra-aequatorialis</i> Jørst.	mo	23
		<i>Puccinia nishidana</i> Henn.	mo	23
Oomycota	Albuginaceae	<i>Albugo tragopogonis</i> var. <i>cirsii</i> Ciferri & Biga apud Biga	o	188‡
	Albuginaceae	<i>Albugo tragopogonis</i> (DC.) Gray	p	23
	Peronosporaceae	<i>Bremia cirsii</i> (Jaczewski ex Uljanish) J.F. Tao & Y.N. Yu	oo	188
Anamorphic <i>Guignardia</i>		<i>Phyllosticta cirsii</i> Desm.	mo	23
Anamorphic <i>Mycosphaerella</i>	<i>Cercospora cirsii</i> Ellis & Everh.		mo	23
	<i>Ramularia balcanica</i> Bubák & Ranoj.		oo	23
	<i>Septoria cirsii</i> Niessl		po	23

† Recorded as *Puccinia obtogens* (Link) Tul.

‡ Recorded as *Albugo tragopogi* (Persoon) Schrötet var. *cirsii* Ciferri et Biga apud Biga

Arthropods

Order	Family	Species	H.R.	Ref.	
Coleoptera	Cerambycidae	<i>Thyestilla gebleri</i> (Faldermann)	po	9	
	Chrysomelidae	<i>Altica cirsicola</i> Ohno	*	27	
			oo	65	
			oo	140	
			oo	158	
			oo	185	
	Crioceridae	<i>Lema concinnipennis</i> Baly	po	65	
			po	139	
		<i>Lema lacosa</i> Pic	po	65	
			po	139	
	Curculionidae	<i>Cleonus piger</i> Scopoli	po	2	
			*	27	
			<i>Larinus ovalis</i> Kono	po	2
			<i>Larinus planus</i> (Fabricius)	*	27
			<i>Larinus tarbinatas</i>	*	27
			<i>Lixus acutipennis</i> Roelofs	po	2
			<i>Lixus depressipennis</i> Roelofs	*	27
	Eumolpidae	<i>Basilepta fulvipes</i> (Motschulsky)	po	139	
			<i>Pachnephorus seriatus</i> Lefèvre	po	139
	Scolytidae	<i>Thamnurgus caucasicus</i>	*	27	
Diptera	Tephritidae	<i>Terellia</i> sp.	*	27	
		<i>Urophora</i> sp.	*	27	
Hemiptera	Lygaeidae	<i>Oxycarenus</i> sp.	*	27	
	Pentatomidae	<i>Eurydema wilkinsi</i> Distant	po	193	
	Tingidae	<i>Tringis ampliata</i> (Herrich-Schaeffer)	po	193	
Homoptera	Aphididae	<i>Capitophorus carduinus</i> (Walker)	po	189	
		<i>Capitophorus elaeagni</i> (del Guercio)	po	65	
		<i>Capitophorus evelaeagni</i> Zhang	mo	100	
			mo	189	
		<i>Hyperomyzus sinilactucae</i> Zhang	po	189	
<i>Uroleucon cephalonopli</i> Takahashi	oo	65			
Lepidoptera	Lycaenidae	<i>Plebejus argus</i> (Linnaeus)	po	203	
	Noctuidae	<i>Diachrysia intermixta</i> Warren	po	65	
			po	158	
			po	209 ^I	
	Nymphalidae	<i>Melitaea scotosia</i> Butler	po	203	
			<i>Vanessa cardui</i> (Linnaeus)	*	27 ^{II}
	Pyralidae	<i>Homoeosoma binaevella</i> Hübner	po	145	
			<i>Loxostege verticalis</i> Linnaeus	p	145
	Saturniidae	<i>Samia cynthia ricina</i> (Donovan)	po	207	
	Tortricidae	<i>Aethes cnicana</i> Westwood	po	66	
			<i>Aethes rubigana</i> Treitschke	po	66
			<i>Aphelia paleana</i> (Hübner)	po	113
			<i>Archips seminubilus</i> (Meyrick)	po	141
<i>Cnephasia chrysantheana</i> (Duponchel)			po	113	
<i>Eucosma fulvana</i> (Stephens)			po	113	

Thysanoptera	Phlaeothripidae	<i>Haplothrips chinensis</i> Priesner	po	56
		<i>Haplothrips subtilissimus</i> Haliday	po	56
		<i>Haplothrips tritici</i> (Kurdjumov)	po	56
	Thripidae	<i>Anaphothrips sudanensis</i> Trybom	po	56
		<i>Frankliniella intonsa</i> (Trybom)	po	56
		<i>Thrips tabaci</i> Lindeman	po	56

* based on research conducted on *C. arvense*, the arthropods attack Canada thistle, but their host range information is not given.

¹ Recorded as *Plusia intermixta* Warren

¹¹ Recorded as *Cynthia cardui* L.