

# *Lotus corniculatus*

## Bird's foot trefoil

### Introduction

The genus *Lotus* contains approximately 100 species, distributed in the Mediterranean area, Eurasia, America, and temperate Australia. Eight species and one variety have been reported in China, primarily in the northwestern areas<sup>[154]</sup>.



*Lotus corniculatus*. (Photo by Albert F. W. Vick, Jr., LBJWC.)

### Species of *Lotus* in China†

Scientific Name	Scientific Name
<i>L. alpinus</i> (Ser.) Schleich. ex Ramond	<i>L. frondosus</i> (Frey) Kupr.
<i>L. angustissimus</i> L.	<i>L. praetermissus</i> Kupr.
<i>L. australis</i> Andr.	<i>L. tenuis</i> Waldst. et Kit. ex Willd.
<i>L. corniculatus</i> L.	<i>L. tetragonolobus</i> L.

† variety not listed

### Taxonomy

**Family:** Leguminosae  
(Fabaceae)

**Genus:** *Lotus* L.

### Description

*Lotus corniculatus* is a glabrous to sparsely pubescent perennial herb that grows 15-50 cm tall. Stems are nearly square, solid, and occur in clumps with a prostrate or ascending growth

form. Leaves are pentafoliate on the 4-8 mm long, hair-covered rachis. The petiolule is short and yellow villous. The leaflets are papery, asymmetrical to oblanceolately ovate, 5-15 cm long and 4-8 mm wide, with the basal pair resembling stipules. From May to September, three to seven flowers grow in an axillary umbel with three leafy bracts. The glabrous or sparsely pubescent calyx is bell-shaped, 5-7 mm long and 2-3 mm wide, and lobed deeply

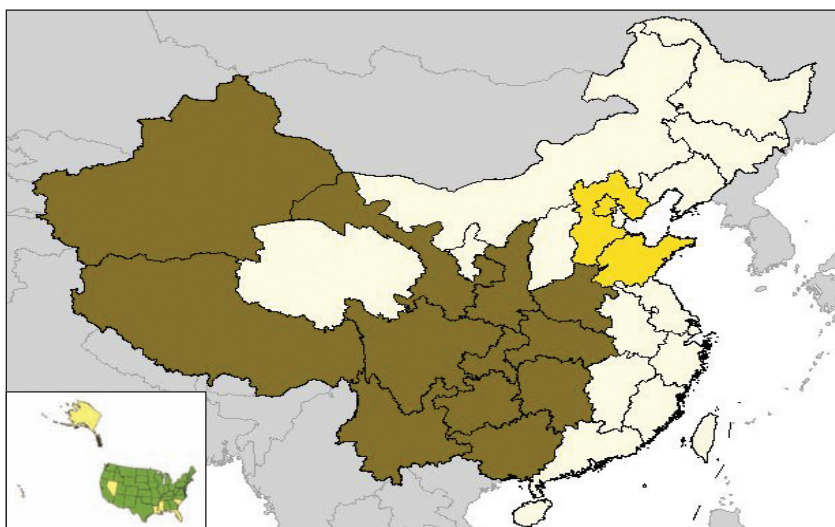
to a length equal to the tube. Corollas are yellow or gold colored, turning blue when dried. Pods are brown, linear to cylindrical, 20-25 mm long and 2-4 mm in diameter, containing many grayish-brown ovate seeds 1 mm long. The “bird’s foot” like fruits appear from July to October<sup>[70][154]</sup>.

### Habitat

*Lotus corniculatus* prefers to grow in warm, moist places. Due to its extensive root system, it is drought-tolerant. It tends to grow in well-drained sandy soil and is intolerant of prolonged periods of water logging. It occurs on hillsides, in grasslands, in crop fields, and on riverbanks, where the soil is moist and alkaline<sup>[154]</sup>. In China, the most



Flowers of *Lotus corniculatus*. (Photo by Mrs. W. D. Bransford, LBJWC.)



favorable habitat for *L. corniculatus* is in Weining, Guizhou province, at an elevation of about 2500 m, where the plant grows well and the seeds mature naturally<sup>[32]</sup>.

**Distribution**

*Lotus corniculatus* is distributed in Guangxi<sup>[50]</sup>, Guizhou<sup>[32][74]</sup>, Gansu<sup>[70][74]</sup>, Henan<sup>[25]</sup>, Hubei<sup>[46]</sup>, Hunan<sup>[126]</sup>, Shaanxi<sup>[70][74]</sup>, Sichuan<sup>[70][74]</sup>, Tibet<sup>[160]</sup>, Xinjiang<sup>[174]</sup>, and Yunnan<sup>[164]</sup> provinces and other areas along the middle and upper Yellow River<sup>[154]</sup>.

**Economic Importance**

*L. corniculatus* is used as forage and green manure because of its high carbohydrate and moisture content<sup>[96][154]</sup>.

**Related Species**

One variety of *Lotus corniculatus*, *Lotus corniculatus* var. *japonicus* Regel, has been reported to occur in China. It is glabrescent, and has fewer flowers than *L. corniculatus*, with sepals slightly longer than or equal to the calyx tube<sup>[154]</sup>.

Another common *Lotus* species that has caused serious harm in China is *L. tenuis*. It occurs in grasslands, near ponds, in crop fields, and wasteland, and is distributed in Gansu, Guizhou, Shaanxi, Shanxi, and Xinjiang<sup>[96][154]</sup>.

**Natural enemies of Lotus**

*Lotus corniculatus* has only one fungal associate, *Erysiphe betae*. This fungus can also infect members of the genus *Polygonum*. Seven species of arthropods are reported to occur on *Lotus* including one bug and six lepidopterans. Four of

**Fungi**

Phylum	Family	Species	H. R.	Ref.
Ascomycota	Erysiphaceae	<i>Erysiphe betae</i> (Vaňha) Weltzien	p	23 <sup>†</sup>

<sup>†</sup> Recorded as *Erysiphe polygoni* DC.

**Arthropods**

Order	Family	Species	H. R.	Ref.
Hemiptera	Plataspidae	<i>Coptosoma scutellatum</i> (Geoffrey)	po	193
Lepidoptera	Lycaenidae	<i>Everes argiades</i> (Pallas)	p	203
		<i>Zizina otis riukuensis</i> (Matsumura)	po	203
	Pieridae	<i>Colias erate</i> (Esper)	p	158
		<i>Colias erate formosana</i> Shirôzu	po	203
	Pyralidae	<i>Nephoteryx semirubella</i> Scopoli	p	145
		<i>Salebria semitrubella</i> (Scopoli)	p	158