

# *Tamarix* species

## Salt Cedar, Tamarisk

### Introduction

The genus *Tamarix* contains approximately 90 species worldwide, primarily in Asia and North Africa, as well as the arid and semi-arid areas of Europe. Distribution ranges from 10°W to 145°E, and 50° through 20°N in the Northern hemisphere, and 55° through 12°S in the Southern hemisphere. Members of the genus are tolerant to dry, saline, hot conditions, with a preference for sand and water<sup>[206]</sup>.

### I. *Tamarix chinensis*

Five stamen Tamarisk, Salt Cedar

#### Taxonomy

**Order:** Violales

**Suborder:** Tamaricineae

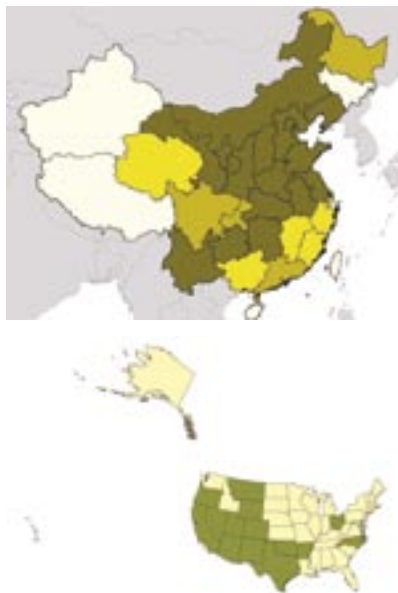
**Family:** Tamaricaceae

**Genus:** *Tamarix* L.

**Species:** *Tamarix chinensis* Lour.

#### Description

*Tamarix chinensis* is a deciduous shrub or small tree 3-6 m tall. The branches are purplish red, dark red or light brown; and thin, slender and weeping when



### Species of *Tamarix* in China<sup>[206]</sup>

Scientific Name	Scientific Name
<i>T. tenuissima</i> Nakai	<i>T. hohenackeri</i> Bunge
<i>T. androssowii</i> Litw.	<i>T. jintaenia</i> P. Y. Zhang et M. T. Liu
<i>T. aphylla</i> (L.) Karst.	<i>T. karelinii</i> Bunge
<i>T. arceuthoides</i> Bunge	<i>T. laxa</i> Willd.
<i>T. austromongolica</i> Nakai	<i>T. leptostachys</i> Bunge
<b><i>T. chinensis</i> Lour.</b>	<i>T. mongolica</i> Niedenzu
<i>T. elongata</i> Ledeb.	<b><i>T. ramosissima</i> Ledeb.</b>
<i>T. gansuensis</i> H. Z. Zhang	<i>T. sachuensis</i> P. Y. Zhang et M. T. Liu
<i>T. gracilis</i> Willd.	<i>T. taklamakanensis</i> M. T. Liu
<i>T. hispida</i> Willd.	<i>T. tarimensis</i> P. Y. Zhang et M. T. Liu

young. The leaves are subulate or ovate lanceolate, 1-3 mm long, and scale-like on the underside. The inflorescence is a panicle at the end of the shoot. Flower stalks are slender. Bracts are oblong, or linear chisel shaped, and inflated at the base. The sepals are 5-numbered, narrowly ovate, and shorter than purplish petals, which are also 5-numbered, and persistent when fruited. The floral disc is purplish, and has 5 or 10 lobes, between which stamens occur in 5s and are longer than the petals. The ovary is cylindrical with 3 rod-shaped styles. The fruit is a capsule about 3.5 mm in length. The flowers appear in April followed by fruits in late summer through October<sup>[206]</sup>.

#### Habitat

*T. chinensis* occurs in alluvial plains, seashores, flood plains, and other moist and saline areas<sup>[206]</sup>. Additional habitats include streamsides and roadsides at elevations of 1910-2500 m in Yunnan province, southwestern China<sup>[14]</sup>, valleys, and hillside slopes at elevations of 900 m in Shanxi province, northern China<sup>[47]</sup>, at 500 m in the Shenlongjia Mountain area, and Hubei province of central China<sup>[54]</sup>.

#### Distribution

*T. chinensis* is native to Anhui, Hebei, Henan, Jiangsu, Liaoning, and Shandong provinces. It is planted in areas of eastern and southwestern China<sup>[206]</sup> extending to Guangdong, Guangxi and Yunnan<sup>[85]</sup>. Recently published provincial floras indicate that *T. chinensis* may also occur in Gansu, Hubei<sup>[54]</sup>, Hunan<sup>[151]</sup>, Inner Mongolia<sup>[144]</sup>, Ningxia<sup>[142]</sup>, Shanxi<sup>[47]</sup>, Yunnan<sup>[14]</sup>, cultivated in Fujian<sup>[41]</sup>, Guangxi<sup>[63]</sup>, Jiangxi<sup>[42]</sup>, Qinghai<sup>[127]</sup>, Shaanxi<sup>[82]</sup>, Zhejiang<sup>[153]</sup>, and probably Guangdong<sup>[85]</sup>, Heilongjiang<sup>[157]</sup>, and Sichuan<sup>[85]</sup>.

#### Economic Importance

*T. chinensis*, is cultivated for soil stabilization and as an ornamental. The young shoots, leaves, and flowers are used medicinally<sup>[14]</sup>.

### II. *Tamarix ramosissima*

#### Taxonomy

**Order** Violales

**Suborder** Tamaricineae

**Family** Tamaricaceae

**Genus** *Tamarix* L.

**Species** *Tamarix ramosissima* Ledeb.

#### Description

*Tamarix ramosissima* is a shrub or small tree 1-3 m tall. The stems and older bark are dark gray. The annual lignified vegetable shoots are erect, slender, multi-stemmed, light red or orange yellow color, which fades on the biennial shoot. Leaves on the lignified shoot are lanceolate, and half perfoliate, while the leaves of the green vegetative shoots are subovate, or triangular-cordate, 2-5 mm long, acuminate at the apex, and nearly perfoliate. The raceme inflorescence, 3-3.5 cm long and 3-5 mm wide, appears at the apex of the annual shoot in a panicle arrangement 0.2-1 cm in length. The bract is lanceolate, 1.5-2 mm long, and equal to or longer than the calyx, petals are pink to purple, obovate to broadly so, and persistent when in fruit. The sepals are broadly elliptic, or ovate, 0.5-1 mm long. Flowers are 5-numbered. The floral disc is five-lobed, equal to or 2.5 times the length of the corolla. The fruit is a conical capsule, 3-4 times longer than calyx. The flowers and fruits appear from May through September<sup>[47]</sup>.



Xinjiang,<sup>[9, 47, 206]</sup> and probably Beijing and western Tibet<sup>[18, 67, 186, 206]</sup>.

was already imported and released in the western United States<sup>[27]</sup>.

### Economic Importance

*T. ramosissima* is cultivated in arid areas for soil stabilization and reforestation. It is sometimes planted as an ornamental and as sheep and cattle forage. However, it is regarded as a weed when it appears in crop fields and irrigation areas<sup>[206]</sup>.



### Natural Enemies of *Tamarix*

At least two fungal species and eight arthropods have been recorded as associated with *Tamarix*. *Alternaria tamaricis* T. Y. Zhang, *Liocleonus clathratus* (Olivier), *Cryptocephalus astracanicus* Suffrian, and *Stylosomus tamaricis* Herrich-Schäffer are recorded hosted by *T. Chinensis*. Meng et al reported 105 species in 29 families of 7 orders resulted from the surveys on *Tamarix* species in Xinjiang<sup>[146]</sup>. *Diorhabda elongata deserticola* Chen, a leaf beetle specific to *tamarix* spp,



### Habitat

*T. ramosissima* occurs on hillside slopes, along stream banks and stream beds at elevations of 770-1470 m in Shanxi<sup>[47]</sup>, 2700-2950 m in Qinghai<sup>[127]</sup>, salt marshes, floodplains, sandy areas in Shandong<sup>[9]</sup>, wetland and swamp interface in Ningxia<sup>[142]</sup>, dry riverbeds in Inner Mongolia<sup>[144]</sup>.

### Distribution

*T. ramosissima* occurs in the provinces of Gansu, Inner Mongolia, Ningxia, northern Shandong, Shanxi, Qinghai,

### Fungi

Phylum	Family	Species	H. R.	Ref.
Basidiomycota	Incertae sedis	<i>Inonotus rheades</i> (Pers.) Bondartsev & Singer	po	[26]
Anamorphic <i>Lewia</i>		<i>Alternaria tamaricis</i> T. Y. Zhang	m	[209]

## Arthropods

Order	Family	Species	H. R.	Ref
Coleoptera	Chrysomelidae	<i>Diorhabda elongata deserticola</i> Chen	oo	[173]†
	Curculionidae	<i>Liocleonus clathratus</i> (Olivier)	m	[6]
	Eumolpidae	<i>Cryptocephalus astracanicus</i> Suffrian	m	[164]
		<i>Stylosomus tamaricis</i> Herrich-Schäffer	m	[164]
Hemiptera	Pentatomidae	<i>Desertomenida quadrimaculata</i> (Horvath)	oo	[208]
Homoptera	Coccidae	<i>Ceroplastes rubens</i> Maskell	po	[173]
Lepidoptera	Lymantriidae	<i>Teia ericae</i> Germar	po	[212]‡
			po	[213]
	Pyralidae	<i>Cryptoblabes gnidiella</i> (Millière)	po	[169]

†Recorded as *Diorhabda deserticola* Chen

‡Recorded as *Orgyia ericae* Gremer