

# Ceratonia siliqua

From Bugwoodwiki

Author: Tunyalee Martin, Global Invasive Species Team, The Nature Conservancy

## Contents

- [1 Identifiers](#)
- [2 Stewardship summary](#)
- [3 Natural history](#)
  - [3.1 Description](#)
  - [3.2 Reproduction](#)
  - [3.3 Range](#)
- [4 Management/Monitoring](#)
- [5 Information sources](#)
  - [5.1 Bibliography](#)
  - [5.2 Source document](#)

## Identifiers

**Latin Names:** *Ceratonia siliqua* L.

**Common Names:** Carob, locust bean tree, St. John's bread

The genus name *Ceratonia* derives from the Greek *keras*, horn, referring to the hard, horn-like textures of the seeds (Rushforth 1999). The species name *siliqua* is from the Latin for a pea pod. The common name Carob is cognate with the weight measure 'carat', and refers to the use of the seeds (which are very uniform in size) as weights for measuring gold and precious stones (Rushforth 1999). The other names locust bean tree and St. John's bread, were derived from the Bible; St. John the Baptist is said to have sustained himself on fruit of the "locust" tree when wandering in the wilderness. The word locust is also used for other trees with pinnate leaves and oblong pods such as North American natives *Gleditsia* and *Robinia* (Morton 1987).

## Stewardship summary



### Taxonomy

Kingdom: Plantae  
Phylum: Magnoliophyta  
Class: Magnoliopsida  
Order: Fabales  
Family: Fabaceae  
(Leguminosae)  
Genus: *Ceratonia*  
Species: *siliqua*

### Scientific Name

*Ceratonia siliqua*  
L.

*Ceratonia siliqua* is native to the eastern Mediterranean and Middle East and is commonly cultivated in California. Spanish missionaries first introduced the carob tree into Mexico and southern California. In 1856, seedlings were distributed from Spain to the southern states of the US.

St. John's bread

In 1859, more seeds were brought from Israel. Many carobs were planted as ornamentals and street trees during this time in Texas, Arizona, California, and in Florida (Morton 1987). The trees are also used for erosion control and the pods for stock feed, human consumption, commercial thickeners, pet foods, cosmetics, and pharmaceuticals (Tous & Ferguson 1996).

*Ceratonia siliqua* has recently been reported escaping from cultivation in California (Sanders 1996). *Ceratonia siliqua* rarely invades undisturbed habitats but escapes easily along washes and other moist areas. This species has escaped in Los Angeles Co., the San Jose Hills in Pomona, in San Bernardino Co., and is one of the worst weeds on the University of California, Riverside Botanic Gardens (Sanders 1996).

The impacts of this new invader are unknown. However, *Ceratonia siliqua* has the following characteristics:

1. resprouts when cut (Sanders 1996);
2. adaptable to different soil types (rocky, sandy, heavy loam) (Morton 1987);
3. has no serious disease problems (Morton 1987);
4. is extremely drought-tolerant (Morton 1987);
5. common in cultivation, which increases the chance of escape into wildland areas.

## Natural history

### Description

*Ceratonia siliqua* L. (Fabaceae, the bean family) is a slow growing evergreen tree. *Ceratonia siliqua* attains a height of 10-17 m and can have a trunk 85 cm in diameter by the time it is 18 years old. The leaves are 12-30 cm long, pinnate with 6-10 (rarely 12) opposite leaflets and usually no terminal leaflet. The leaflets are oval and rounded at the apex, 2-8 cm long and 1-4.5 cm broad, dark green and leathery. The red flowers are small and borne in clusters. Flowers bloom from July to November on older wood in the Mediterranean. Separate trees are male, female or hermaphroditic. The fruit is light to dark brown, 10-30 cm long and 1.5-3.5 cm wide. Fruit shape is oblong, flattened, straight or slightly curved and with a thickened margin. Ripening late in the summer, during bloom, the fruit is shiny, tough and fibrous. The fruit contains a soft, sweet glutinous pale brown pulp and 5-15 flattened, hard seeds. When the pod is fully ripe and dry, the loose seeds rattle. The ripe fruit can be eaten (avoid the seeds) and has a taste similar to chocolate (Rushforth 1999, Morton 1987).

### Reproduction

Coyotes frequently consume carob fruit and disperse the seeds in their scat (Sanders 1996). In urban areas, carob seeds in mulch made from *C. siliqua* street trees readily germinate (Sanders 1996). In Israel, the fruit are fed upon by fruit bats that eject (spit out) the seeds in pellets, which disperses them away from the tree. Ejected seeds germinate as readily as the seeds taken directly from the fruit (Izhaki

et al. 1995).

## Range

*Ceratonia siliqua* is native to the Mediterranean and Middle East (Tous & Ferguson 1996). It grows best in Mediterranean-type climates with cool winters, mild springs, and hot summers with little to no rain (USDA zones 9-10). This tree is extremely drought tolerant and readily withstands temperatures up to 50 °C. It is hardy when mature to -7 °C (Morton 1987). Young trees or shoots and flowers of mature trees are susceptible to frost damage at temperatures at or below -4 °C. The tree grows well on rocky hillsides, deep sands, or heavy loam, but is not tolerant of acid or wet soils (Morton 1987).

## Management/Monitoring

1. In the UC Riverside Botanic garden, the trees were cut to the ground. They resprouted but were cut again before they were sufficiently mature to flower (Sanders 1996).
2. Growth of seedlings and resprouting trunks may be limited by jackrabbits that feed on the foliage (Sanders 1996).

## Information sources

### Bibliography

- Izhaki, I., Korine, C., and Arad, Z. 1995. The effect of bat (*Rousettus aegyptiacus*) dispersal on seed germination in eastern Mediterranean habitats. *Oecologia* 101:335-342.
- Morton, J.F. 1987. Carob. In: *Fruits of Warm Climates*, CF Dowling, Jr. (ed.) Miami, Fl. pp.121-124.
- Rushforth, K. 1999. *Trees of Britain and Europe*. Harper Collins.
- Sanders, A.C. 1996. Noteworthy Collections: California. *Madrono* 43(4):526.
- Tous, J. and Ferguson, L. 1996. Mediterranean fruits. In: *Progress in New Crops*, J. Janick (ed.) ASHS Press, Arlington, VA. pp. 424-425.

### Source document

Weed Alert! *Ceratonia siliqua* L.; Tunyalee Martin, 2001. (<http://www.invasive.org/gist/alert/alrtcera.html>)

Articles in Archived Publications

- **Main Version**
- **Element Stewardship Abstracts**

---

Retrieved from "[http://wiki.bugwood.org/index.php?title=Ceratonia\\_siliqua&oldid=42134](http://wiki.bugwood.org/index.php?title=Ceratonia_siliqua&oldid=42134)"

---

- This page has been accessed 12,220 times.
- This page was last modified 08:01, 16 May 2012 by **Lily Connor**. Based on work by [Elizabeth Carlson](#) and Bugwoodwiki user **Conifers**.
- Content is available for non-profit, educational use under our [Copyright Agreement](#). Developed by the Center for Invasive Species and Ecosystem Health at the University of Georgia.

"