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Ancient Figs Of The Holy Land

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A delicious caprifig newton. The seed-bearing nutlets are caused by a minute, symbiotic pollinator wasp by the name of **Blastophaga psenes**.

Caprification Of Cultivated Figs In California

Fig Trees Of The Holy Land

One of the earliest records of any fruit eaten by people of the Middle East is the common fig (***Ficus carica***). Remnants of figs have been found in archeological excavations dating back to the Neolithic era, about 1000 BM (Before Moses). The fig is the first tree mentioned in the Bible in the story of Adam and Eve. Some biblical scholars think the fig, and not the apple, was the forbidden fruit picked by Eve in the Garden of Eden. Chauvinistic males also believe the penalty for this unauthorized fruit-picking was a sorrowful menstrual cycle. The scratchy leaves of this tree were reportedly used to cover the genitalia of the first humans. The fig is native to Caria--an ancient region of Asia Minor between the Mediterranean and Black Seas. It grows readily from seeds and cuttings, especially along water courses and rich, bottom lands, and was introduced by people throughout the Holy Land. Fig trees provided shade, fire wood and several crops of nourishing fruit a year. Dried figs could be squeezed into loafs or placed on strings and used as food during long, arduous journeys across the desert.



Kalamata string figs. In ancient times people carried strings of dried figs such as these on long arduous journeys across the desert. The figs provided them with a nutritious high protein, high carbohydrate food source in a region where food was scarce.

The actual edible "fruit" of a fig tree is called a syconium--a hollow structure lined on the inside with hundreds of tiny unisexual flowers. A tiny female wasp (**Blastophaga psenes**) enters an opening on the syconium to pollinate the flowers. In **Ficus carica**, only the syconia of female trees are edible, and without pollination they typically do not ripen and fall from the branches. [There are parthenocarpic varieties in which the seedless syconia ripen without pollination.] Male trees, called caprifigs, produce inedible syconia containing wasps and pollen-bearing male flowers. [Capri refers to goat and the syconia were apparently fed to livestock.] During the late 1800s, Calimyrna fig growers in California were puzzled why their trees would not set fruit. They discovered that the female trees needed the fig wasp and male caprifigs from the Old World. Each June in California's hot Central Valley, bags of wasp-bearing caprifigs are placed in the Calimyrna orchards. This amazing pollination process is called caprifigation and the crunchy, seed-bearing syconia have a superior nutty flavor. [Premium fig newtons are made from caprifigged figs and contain numerous seed-bearing nutlets or endocarps.]

[See Fig Beetles Indulging On Calimyrna Figs.](#)
[See The Incredible Fig and Fig Wasp Scenario](#)

One additional note about **Ficus carica** . The New Testament tells of a fig tree that Jesus came upon on the outskirts of Jerusalem in spring. Although it was fully leaved out, the tree bore no ripe fruit. Apparently Jesus was hungry (and perhaps had a low blood sugar level), so he said unto it, "let no fruit grow on thee henceforward for ever," and the tree withered away (Matthew 21: 18-19). This was a remarkable feat for a man with only one set of maternal chromosomes. From a botanical perspective, this tree had no mature fruit because spring was simply too early in the season, or perhaps it was a caprifig or an unpollinated female tree.

Another little-known fig of the Middle East is the sycomore fig (**Ficus sycomorus**). Although it is native to eastern Central Africa, the sycomore fig was carried north to the Middle East by 3000 BC. Without its native pollinator wasp the trees did not set fruit. Early farmers in this region learned how to induce parthenocarpy by gashing the syconia with a knife. Within 3-4 days the hard, green syconia enlarge and become sweet and fleshy. Gashed sycomore figs have been found in ancient tombs and are depicted in ancient bas-reliefs. Some biblical scholars think the phrase "gatherer of sycomore fruit" (Amos 7:14) actually means "piercer of sycomore fruit." The gashed figs produce ethylene gas which hastens the ripening process. Ethylene gas is also used on green bananas before they reach your supermarket. So the next time you bite into a fig newton, think about all the history of this tree and its symbiotic pollinator wasp, and how it affected our lives by providing food and itchy leaves for the first naked humans, a monthly calendar (reminder) for ladies between puberty and menopause, and the first case of PMS.

Which Figs Grew In The Ancient Holy Land?

An excellent article entitled "The History of the Fig in the Holy Land from Ancient Times to the Present" was written by Asaph Goor in **Economic Botany** 19: 124-135 (1965). The fig species discussed by Goor is the common edible fig (**Ficus carica**). This tree was cultivated for its fruit more than 5,000 years ago and is native to the region between the Mediterranean and Black Seas, sometimes referred to as the ancient region of Caria in Asia Minor. It is a dioecious species with separate male and female trees, and a symbiotic pollinator wasp (**Blastophaga psenes**) that is propagated inside the fruits (syconia) of male trees called caprifigs. It grows wild over a large area, including southern Europe and the Middle East. Goor (1965) stated that **Ficus carica** grew wild in the Holy Land thousands of years ago; however, this doesn't necessarily mean that it was truly native (indigenous) to the Holy Land. It may have been introduced by people to this region, either by seeds or cuttings. **Ficus carica** and its symbiotic wasp have even been introduced into California, including male and female trees that grow wild in San Diego County. In fact, the symbiotic wasps live in caprifigs that produces three crops of inedible figs (syconia) each year, including a wasp-bearing, overwintering

mamme crop that remains on the bare branches when the tree is devoid of leaves.

There are several varieties of male caprifigs and hundreds of varieties of female **Ficus carica** trees, some of which develop delicious, seedless, parthenocarpic fruits that do not require pollination. There are also varieties in which the female trees will shed their entire crop if they are not pollinated by the symbiotic fig wasp. These varieties have been selected by people over countless centuries. The trees are readily propagated by cuttings and were transported and cultivated by people thousands of years ago. Apparently many ancient civilizations were aware of the fact that **Ficus carica** required pollination in order to produce edible, seed-bearing fruits, a process called caprification. In 350 B.C., Aristotle described fig wasps that came out of caprifigs and penetrated the unripe female fig fruits, thus fertilizing them. Theophrastus (372?-287? B. C.) discussed caprification in detail, and Pliny (23-79 A.D.) devoted an entire chapter to the practice of caprification in Italy. The subject of fig pollination and "gallflies" is also mentioned by Herodotus (**Book I**, 485?-425? B.C.). Early horticulturists were undoubtedly aware that the seeds impart a superior, nutty flavor to the fruit, and in some varieties the fruit will not set if it is not pollinated by fig wasps. The fig referred to by Herodotus may have been **Ficus carica**, but another species called the sycamore fig (**Ficus sycomorus**) was also used for food in the eastern Mediterranean region. According to Goor (1965): "The sycamore fruit is much inferior and cheaper... It is eaten by the poorer classes and by shepherds in plains where it grows alone." In addition it does not survive cold winters like **Ficus carica**, and **Ficus carica** has a much wider range, particularly in colder regions of Iraq and northward.

Another excellent article about ancient fig cultivation was written by J. Galil entitled "An Ancient Technique for Ripening Sycamore Fruit in East-Mediterranean Countries" (**Economic Botany** 22: 178-190, 1978). When the term "fig gashing" in the Near and Middle East is mentioned in various articles and books (including the **Bible**), it most likely refers to the sycamore fig (**Ficus sycomorus**), a species that is actually native to eastern Central Africa. Although the true East African pollinator wasp is

not present in the Holy Land, an ovipositing, nonpollinator wasp does induce parthenocarpic fruits containing wasps instead of seeds. The ancient technique of gashing also induces edible, parthenocarpic fig fruits that enlarge and ripen rapidly before the wasps inside mature.

Sacred Fig Trees In Other Parts Of The World

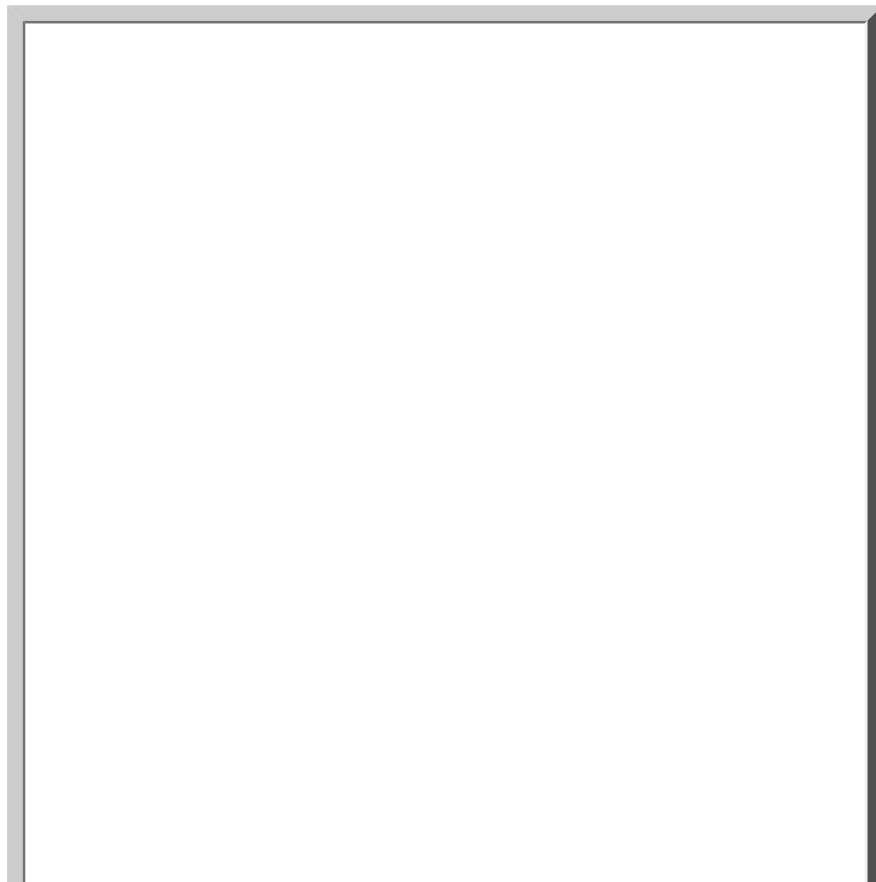
Figs were not only revered by Christians, Jews and Moslems of the Middle East. There are at least 1,000 species of **Ficus** in the world, mostly in tropical countries, and they are considered sacred in some cultures. In fact, the fig tree of the Garden of Eden may have been one of these other lovely species. In the tropical rain forest "strangler fig" seeds germinate high on the forest canopy and send numerous aerial roots to the ground far below. Like a botanical boa constrictor the serpentine roots gradually wrap around the limbs and trunk of the support tree, constricting vital phloem and cambial layers and eventually shading out the host. Both Aztecs and Mayans used bark from native strangler figs to make a kind of paper for the original Mexican codices. Thin strips of bark were pounded with a stone until a sheet of paper resulted, a process not unlike the production of papyrus paper by Egyptians. Fig trees are part of the poetry and romance of Central America, and they are intimately associated with daily life and are regarded with affection. The strangler fig or "amate" is the "arbol nacional" (national tree) of El Salvador. Village markets are often held in the shade of a giant fig or kapok tree (**Ceiba pentandra**).

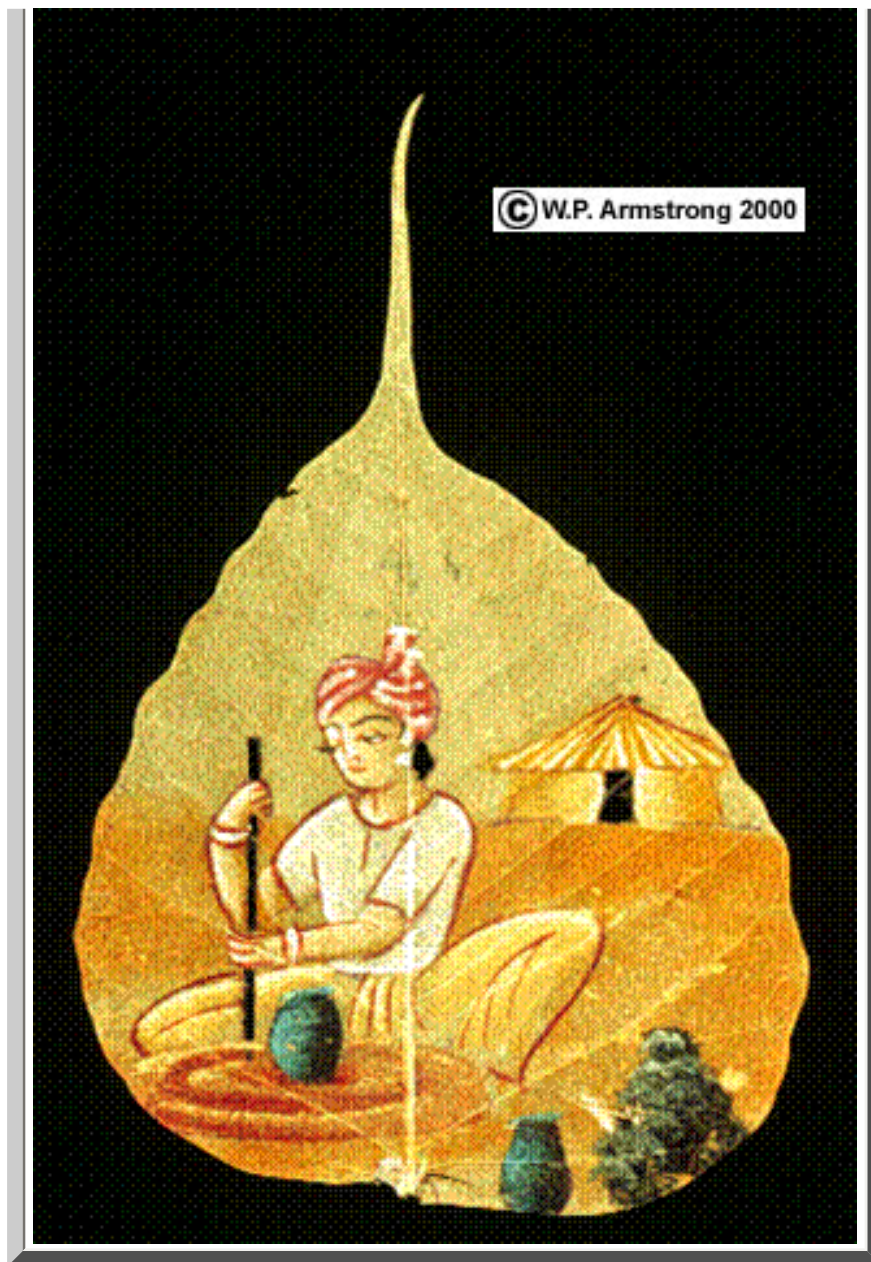
[See Strangler Fig In Ancient Maya City Of Tulum](#)

In banyan figs, enlarged aerial roots extend from the branches to the ground, giving the tree the unusual appearance of being supported by pillars. By this manner of growth the tree is able to develop a huge spreading crown, and many Indian banyans (**Ficus bengalensis**) are of immense size and great antiquity. Some of these banyans start out as "stranglers" high on the branches of other trees. One of the largest trees on record grew at the Calcutta Botanic Garden. This famous tree had 1,000 prop roots and covered an area of four acres. The canopy of some banyans provides shade for entire villages. Alexander the Great reportedly

camped with an army of 7,000 soldiers under a banyan. Hindus regard the banyan as sacred, for it is said that Buddha once meditated beneath one. The English name "banyan" comes from the "banians," or Hindu merchants who set up markets in the shade of these enormous multi-trunked trees. An unusual use for banyans of the Sikkim-Himalaya region employs "living bridges" across streams and gorges. Aerial roots from fig trees on opposite banks are tied together and then fuse (anastomose) and thicken.

Probably the most revered tree in the world is **Ficus religiosa**, the sacred Bodhi, also known as Bo (from the Sinhalese Bo) of Burma, Ceylon and India. Siddhartha Gautama, the spiritual teacher and founder of Buddhism later known as Gautama Buddha, achieved enlightenment, or Bodhi, beneath this tree. It is said he sat under its shade for six years while he developed his philosophy of the meaning of existence. The term "Bodhi tree" is widely applied to existing trees, particularly the sacred fig growing at the Mahabodhi Temple at Bodh Gaya in the Indian State of Bihar. This tree is probably a direct descendant of the original tree that Buddha sat under. To this day, worshipers place gifts of flowers at the base of its trunk. The intricately-veined, skeletonized leaves of **F. religiosa** are often painted with lovely country scenes.





The skeletonized leaf of a bo tree (**Ficus religiosa**) with a lovely painted scene. The bo tree is sacred in the Buddhist and Hindu religions.

Banyans are not limited to India. On the scenic Islands of Tahiti and Moorea they cling to vertical volcanic cliffs, sending hundreds of aerial roots to the ground far below. Polynesian banyans also grow near native settlements and are considered sacred. The slender aerial roots were picked and used to treat skin cancer and other afflictions, and the inner bark was pounded into tapa cloth. A remarkable story from the Transvaal region of Africa tells of a Bakone village with 17 conical huts built above the reach of lions on the branches of one gigantic banyan.

How Ancient Are Figs (Ficus) In The Geologic Record?



A petrified fig syconium from Glendive, Montana (North America). This ancient syconium is from an extinct species of fig (**Ficus ceratops**) dating back to the Cretaceous Period (70-130 million years ago). Considering the great antiquity of hymenopteran insects, it quite possible that this syconium once contained symbiotic fig wasps. [Fossil syconium from collection of San Diego Gem & Mineral Society.]



70 million-year-old petrified fig syconia from the badlands of eastern Montana.

[Next: See close-up view of petrified syconium compared with dried figs.]



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A petrified fig syconium from the badlands of eastern Montana (Dawson County). It is flanked by two dried figs (**F. carica**), a "black mission" (left) and a "Calimyrna" (right). This ancient syconium is from an extinct species of fig (**Ficus ceratops**) dating back to the Cretaceous Period (70 million years ago). Considering the great antiquity of hymenopteran insects, it quite possible that this syconium once contained symbiotic fig wasps.

Fig Cultivation Predates Cereal Domestication

Krislev, M.E., Hartmann, A. and O. Bar-Yosef. 2006. "Early Domesticated Fig in the Jordan Valley." Science 312 (5778): 1273-1275. 2 June 2006

The remains of parthenocarpic fig syconia (edible figs) have been discovered in archeological sites of the Jordan Valley that date back to 11,400 years bp. The carbonized syconia are clearly parthenocarpic because the drupelets are without embryos or seeds. Wild populations of Ficus carica are gynodioecious with male trees (caprifigs) and female trees. Edible figs are produced on female trees only if they are pollinated by fig wasps (Blastophaga psenes) from the syconia of male trees. The male syconia contain wasps and pollen, and are generally not eaten. They were named "caprifigs" because they were commonly fed to goats. If pollinated, seeds develop inside the drupelets within syconia on female trees. Without pollination, the immature figs are shed by the female trees. Parthenocarpy is produced by a single dominant mutant gene. Female trees expressing this gene retain their developing figs to maturity, even though they are not pollinated and contain no seeds. Parthenocarpic trees must be propagated by cuttings because they do not produce seeds. They produce sweet fig fruits without the need for male trees that carry symbiotic fig wasps within their syconia. This is very advantageous to farmers in regions where the wild caprifigs and natural pollinator wasps do not occur. The presence of parthenocarpic figs in ancient settlements indicates that people recognized these rare parthenocarpic trees and propagated them by planting branches. Evidence of such activity may mark one of the earliest forms of agriculture. Fig trees could have been the first domesticated plant of the Neolithic Revolution, which preceded cereal domestication by about 1,000 years.

1. [Sex Determination Of Common Fig](#)
2. [Pollination Patterns In Dioecious Figs](#)

How To Enjoy And Appreciate Figs:

1. **Purchase only premium quality fig newtons which have been caprified.**
2. **When you buy dried figs, insist on genuine Calimyrna wasp-pollinated figs from California's Central Valley.**
3. **Make a fig leaf apron and wear it around your house.**
4. **Plant a fig tree in your yard and enjoy its fruit--and stay regular.**

[Figs of the Holy Land Crossword
Puzzle](#)



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