

The Fig

Ficus carica

Moraceae

The origin and distribution:

The **Fig** is the edible fruit of *Ficus carica*, a species of small tree in the flowering plant of the mulberry family Moraceae. Native to the Mediterranean and western Asia, it has been cultivated since ancient times and is now widely grown throughout the world, both for its fruit and as an ornamental plant. *Ficus carica* is the type species of the genus *Ficus*, containing over 800 tropical and subtropical plant species.

The common fig is indigenous to an area extending from Asiatic Turkey to northern India, but natural seedlings grow in most Mediterranean countries; it is cultivated in warm climates.

Fig do grow well in the tropics, almost anywhere in fact the Fig was one of the earliest fruit trees to be cultivated, and its cultivation spread in remote ages over all the districts around the Aegean Sea and throughout the Levant. The Fig was one of the principal articles of sustenance among the Greeks; the Spartans especially used it at their public tables. In the Old World, Fig are grown commercially in Italy, Turkey, Algeria, Greece, Portugal, and Spain.

In 2018, world production of raw Fig was 1.14 million tons, led by Turkey and North African countries (Egypt, Morocco, and Algeria) as the largest producers, collectively accounting for 64% of the total.

Importance and uses:

Figs can be eaten fresh or dried, or processed into jam, rolls, biscuits and other types of desserts. Since ripe fruit does not transport and keep well, most commercial production is in dried and processed forms.

Raw Fig is 80% water, 20% carbohydrates, 1% protein, and contain negligible fat. They are a moderate source (14% of the Daily Value, DV) of dietary fiber and (74 kcal) of food energy per 100-gram serving, and do not supply essential micronutrients in significant contents.

When dehydrated to 30% water, Fig have a carbohydrate content of 64%, protein content of 3%, and fat content of 1%. In a 100-gram serving, providing (249 kcal) of food energy, dried Fig are a rich source (more than 20% DV) of dietary fiber and the essential mineral manganese (26% DV), while calcium, iron, magnesium, potassium, and vitamin K are in moderate amounts.

In the Mediterranean region the Fig is so widely used, both fresh and dried, that it is called “the poor man’s food.” The fruit contains significant amounts of calcium, potassium, phosphorus, and iron.

Botanical and physical description:

A Fig plant is a small deciduous tree or large shrub growing up to 7–10 m tall, with smooth white bark. With broad, large, rough, deciduous leaves that are deeply lobed or sometimes nearly entire. Its leaves have three to five deep lobes. The leaves and stems exude white latex when broken.

Its fruit (referred to as syconium, a type of multiple fruit) is tear-shaped, 3–5 cm long, with a green skin that may ripen toward purple or brown, and sweet soft reddish flesh containing numerous crunchy seeds.

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The milky sap of the green parts is an irritant to human skin. In the Northern Hemisphere, fresh Fig is in season from late summer to early autumn. They tolerate moderate seasonal frost and can be grown even in hot-summer continental climates.

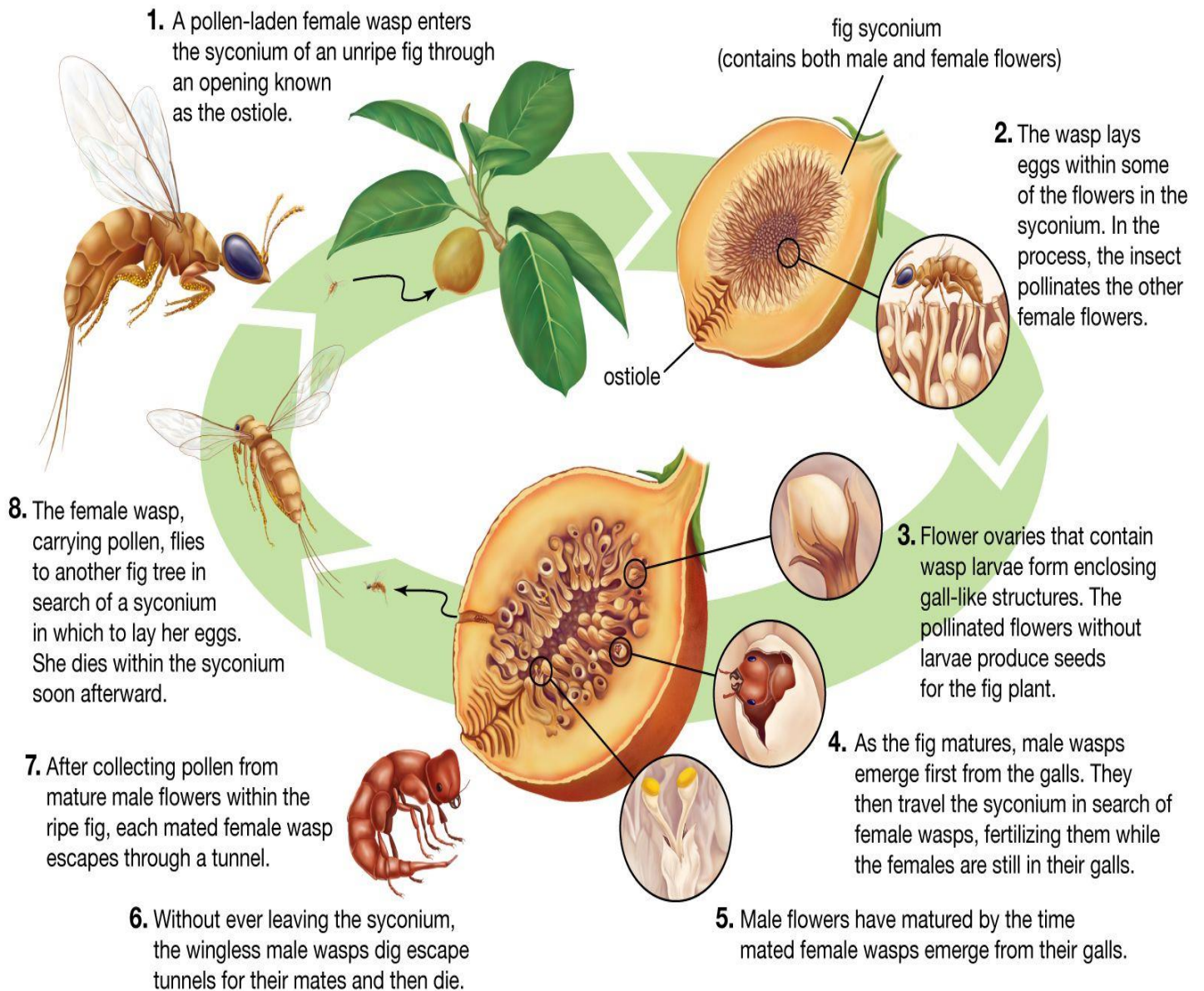
Flowers are staminate (male) or pistillate (female) and enclosed within the inflorescence structure. Long-styled female flowers are characteristic of the edible fruits of most garden and orchard Fig trees. Another type of tree, known as a Caprifig, produces inedible Fig that house the fig wasp young. It has short-styled female flowers that are adapted to the egg-laying habits of the Fig Wasp (*Blastophaga*) and also contains male flowers near the apex. Pollen from the caprifigs is carried by the Fig wasps to pollinate both the edible and inedible Fig. Fig fruits, known as syconia, are borne singly or in pairs above the scars of fallen leaves or in axils of leaves of the present season.

The plant tolerates seasonal drought, and the Middle Eastern and Mediterranean climates are especially suitable to it. Situated in a favorable habitat, mature specimens can grow to considerable size as large, dense, shade trees. Its aggressive root system precludes its cultivation in many urban locations, yet in nature this characteristic helps the plant to root in the most inhospitable locations. Having a great need of water, it is mostly a phreatophyte that extracts the needed water from sources in or on the ground. Consequently, it frequently grows in locations with standing or running water, e. g. in valleys of rivers and in ravines that collect water. The deeply rooted plant searches for groundwater in aquifers, ravines, or cracks in rocks. With access to this water, the tree cools the hot environments in which it grows, thus producing fresh and pleasant habitat for many animals that shelter in its

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shade during periods of intense heat. The mountain or rock Fig is a wild variety, tolerant of cold dry climates, of the semi-arid rocky mountain regions of Iran, especially in the Kouhestan Mountains of Khorasan.



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The life cycle of the fig wasp

Fig trees have **no blossoms on their branches**. The blossom is inside of the fruit many tiny flowers produce the crunchy little edible seeds that give figs their unique texture. Fig are harvested according to nature's clock, fully ripened and partially dried on the tree.

Types and how fruit developed:

In addition to the caprifig, there are three other horticultural types of figs: **Smyrna**, **White San Pedro**, and **Common Fig**. Smyrna-type Fig develops only when fertile seeds are present, and these seeds account for the generally excellent quality and nutty flavour of the fruit. Fig of the White San Pedro type combines the characteristics of both the Smyrna and the Common type on one tree. First-crop Fig develop without flower **pollination**, while second-crop Fig in axils of leaves require it. Common Fig such as the Dottato, Fraga, and Brown Turkey do not require pollination of flowers of either crop, the seeds in the mature fruit usually being hollow. The flowers of such Fig were once regarded as incapable of fecundation and were therefore designated as mule flowers, but it has been proved that all common figs can produce fertile seeds if the flowers are pollinated.

The varieties of Fig grown in various parts of the world run into the hundreds. The trees thrive in a wide range of soil types and in most Mediterranean countries receive water only from the natural rainfall. Some varieties produce only one crop, in summer or fall. Some bear two crops, the first maturing in June or July on wood of the previous growth and the second ripening in summer or fall in the axils of the leaves of the same season. In cool climates such as those of England and central France, most varieties mature only the first crop.

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Fig trees planted in the ground may take **8 to 10 years** after planting before they begin fruit production. This is because young trees utilize their resources to establish a strong, healthy root system before fruiting.



Ripening figs on a common fig tree (*Ficus carica*).

In most districts, Fig are gathered when they fall and placed on trays for drying. Turning and manipulating during the drying process improves the texture and quality of the product.

Climatic condition requirements:

The common fig tree has been cultivated since ancient times and grows wild in dry and sunny locations with deep and fresh soil, and in rocky locations that are at sea level to 1,700 m in elevation. It prefers relatively porous and freely draining soil, and can grow in nutritionally poor soil unlike other Fig species.

Figs thrive in **areas with long and hot summers (Zones 8 and warmer)**, though they can also be grown in colder zones if properly

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insulated from freezing temperatures or grown in containers and brought indoors.

Figs thrive in areas where **winter temperatures do not drop below 15° F**. Young trees can be damaged by early fall frosts when the temperature is 25-27° F. In New Jersey, fig trees will lose their leaves at this time and must be prepared for the dormant season's low temperatures to survive and flourish.

Fig trees like **lots of sunlight and warmth**, and do well in Mediterranean climates for this reason. Plant your Fig tree in a location where it receives at least eight hours of direct sunlight each day to ensure that the fruit ripens properly.

Fig need two things to thrive: sunshine and the space between the trees. **Select a spot that provides at least six hours of sun daily**. In colder regions, help Fig survive winter by giving them a southern exposure or placing them near a south-facing wall that will retain heat.

The mountain or rock Fig is a wild variety, tolerant of cold dry climates, of the semi-arid rocky montane regions of Iran, especially in the Kouhestan Mountains of Khorasan.

Fig Wasp Pollination Cycle



1. Fig Wasp Enters

The pregnant wasp enters the fig through a needle-sized opening at the fig's base. She is carrying with her the pollen from her birth fig.

2a. Laying Eggs

The pregnant wasp lays her eggs in some of the fig's internal flowers.

2b. Pollination

While laying eggs, the female wasp transfers pollen she's carrying to the female flowers, pollinating them. Shortly after laying eggs, the mother wasp dies.

3. Fig Begins to Ripen

After the female has pollinated the fig's female flowers, the fig starts to ripen.

4. Hatching

The male larvae hatch first and fertilise the female larvae before these have hatched.

5. Tunnelling

The males chew small exit tunnels ready for when the female hatchlings emerge. Once they have done this, the males die.

7. Leaving Home

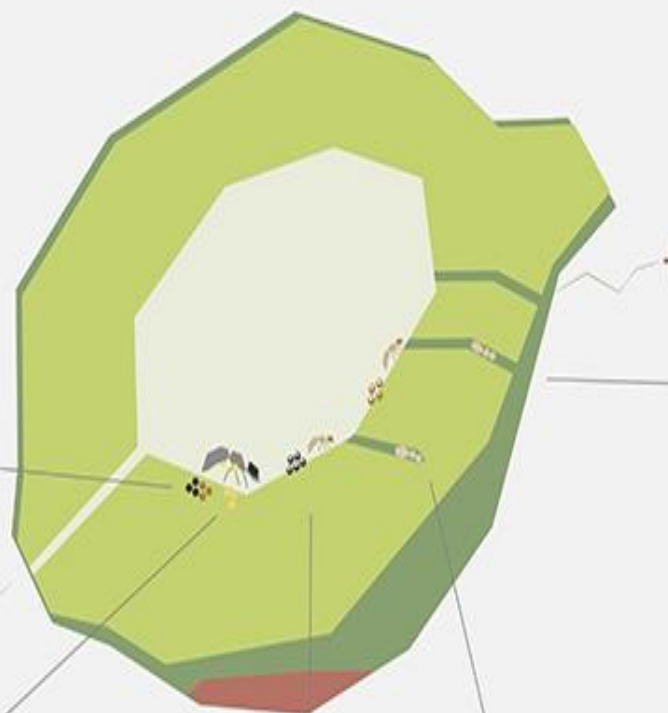
The pollen-laden female wasps emerge from their birth-fig and take to the skies. The cycle begins again.

6. Collecting Pollen

As the female hatchlings crawl out of the fig, bits of the fig's pollen become stuck to their bodies.

Enzymes

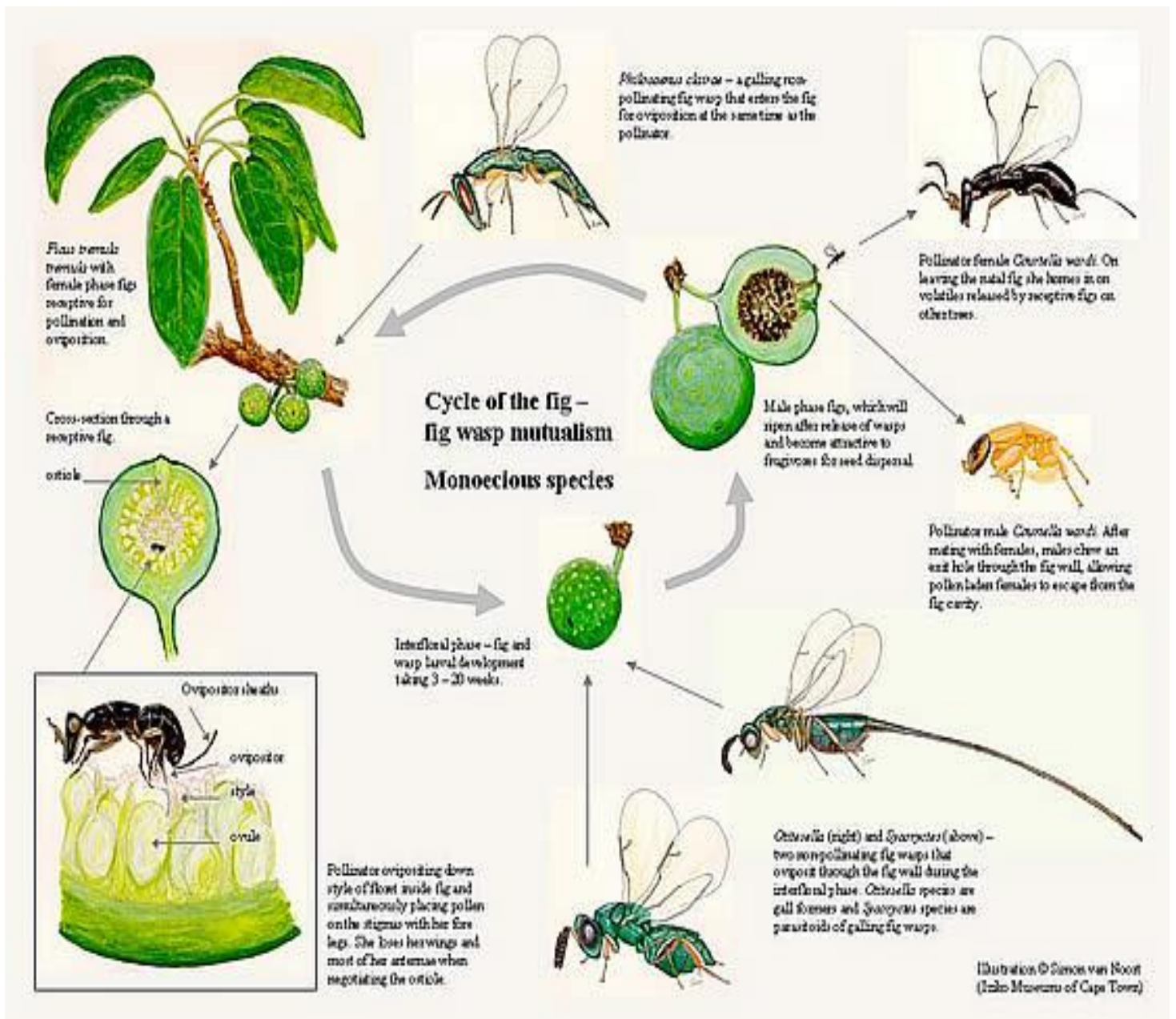
The enzymes in the fig work to digest the bodies of the dead mother wasp and male wasps.



Source: <https://www.britannica.com/animal/fig-wasp>

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