

Fruit trees of the home gardens



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HOHENHEIM



Seminar contribution to the module "Terrestrial Ecosystems" (2101-230)
Institute of Botany (210a) · University of Hohenheim · Stuttgart
presented by Mirjam Schöckle on January 23, 2019

Structure



- Rustic Home Gardens
- Definition of Fruit
- *Citrus spec.*
- Oranges
- Lemons
- The Pomegranate
- Mulberrys
- The Loquat



In Memory of Sorrento by Carl Gustav Carus, 1828 [2].

Rustic Home Gardens



A home garden is a piece of land in immediate surroundings of the house. Here are grown plants, that one can use in the kitchen or that are nice to look at like ornamental plants, medicinal herbs and herbs for the kitchen, vegetable plants and fruit.

The Cypriots have been growing home gardens for hundreds of years. The growing conditions for fruit are favorable thanks to the mediterranean climate.

Many people also grow a tree next to their house. It provides shade and keeps the living space cool in the cypriotic summers.

A fruit tree yields double benefits: fresh fruit and a pleasant environment.



Home garden with herbs and flowers [3].



A pomegranate tree in front of a rustic house [4].

Fruit



“Obst“: berries [5].



“Obst“: an orange [6].



“Obst“: pomegranate [7].

In German, there are two words for fruit, "Frucht" and "Obst".

"Frucht" is the same as the English fruit, that is any ovary and its accessory parts that has developed and matured.

"Obst" is a subcategory. This term includes all fruit that taste sweet-sour and pleasant. "Obst" also can be eaten raw.

Fruits can come from wild or cultivated plants. Most commonly used in home gardens are citrus fruit (*Citrus*), the pomegranate (*Punica granatum*), mulberries (*Morus*) and loquat (*Eriobotrya japonica*).

Grapes (*Vitis vinifera*) and figs (*Ficus carica*) are also found around the house. But as they cannot be stored on the tree and are quickly perishable, they are not as popular as the plants referred to above.



“Frucht“: milkweed [8].



“Frucht“: eggplant [9].



“Frucht“: wheat [10].

Citrus species



From their original range in Southeast Asia, the genus *Citrus* has been brought to Italy, Portugal and Spain by the Genoese.

Later has their cultivation area spread all over the world, especially in the subtropics.

Citrus fruits are very widespread. They can be cultivated between approximately 40° N and 40° S latitudes. Sunny locations are preferred and they thrive best with a continuous water supply.



Orange trees in movable pots [11].

Biology



The evergreen, low-growing trees and shrubs of the *Citrus*-group have smooth or spined branches. The leaves are leathery and dark green. They have many oil glands and smell aromatic.

Large and fragrant flowers with around eight to ten stamen surrounding the upper-continuous ovaries of the pentamerous, radially symmetrical flower are typical for species of *Citrus*.

All have orange or yellow fruits.

Those berries have a leathery rind or hard shell. The specialized pulp vesicles are slender, stalked and more-or-less fusiform. They are nearly free from oil droplets, acrid oil is never contained.



Two varieties of *Citrus* from 1831 [12].

Processing and Products



Citrus fruits are with 123,7 million tonnes in 2010 the most widely produced fruit in the world. The mediterranean countries contribute around 20 % to world production.

The ripe fruit are picked by hand mostly, because of their tight adhesion to the branches. Mechanical vibration can furthermore lead to heavy damage on the trees. *Citrus* fruit are susceptible to mould and fungi. Prestorage curing reduces decay and chilling injuries during storage, the fruit are often additionally treated with wax and preservatives.

Early-season *Citrus* varieties are usually harvested when the rind is still green. They are later treated with ethylen to accelerate chlorophyll decomposition and the developement of yellow or orange colour.



A glass of orange juice [13].

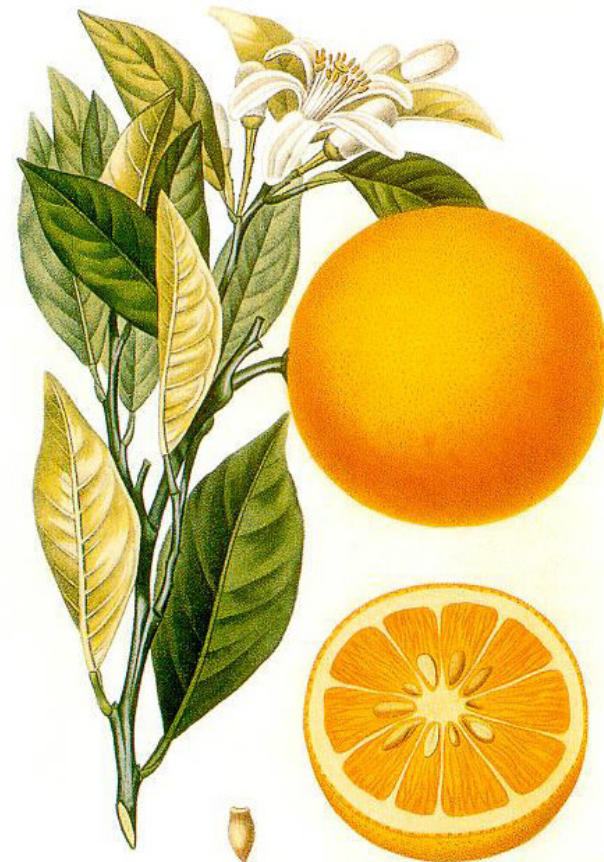
Citrus sinensis (L.) Osb.



The orange tree can reach up to 15 m, has a round crown and slender branches. Its white flowers have a saucer-shape, 5-pointed calyx, 5 petals and 20 to 25 stamens.

The major part of the world *Citrus* production consists of oranges, mainly in Brazil. The fruit is used since 2000 BC in China and expanded via India all over the world.

It is primarily eaten fresh or served as juice. The by-product of orange juice extraction, the pulp, is used as emulsifier and binder, or as pelleted stockfeed.



An orange tree [14].



Flower of *Citrus sinensis* [15].

Illustration of *Citrus sinensis* [16].

Citrus limon (L.) Burm. f.

Lemons are usually light-yellow, some varieties have longitudinal stripes of green and yellow. Trees can reach 6 m in height and have mildly fragrant flowers with 4 or 5 petals. They can be distinguished from other *Citrus* fruits by a nipple-like protuberance at the apex.

The lemon reached southern Italy around 200 AD and was distributed widely in the Mediterranean region between 1000 and 1150 AD by the Arabs.

Lemon juice is used fresh, canned or concentrated. Lemons were an important source of vitamin C on sailing ships during the 18th century to prevent scurvy. Today it is often used to prevent the common cold.



Fruits of *Citrus limon* (L.) Burm. f. [17].



A lemon tree [18].



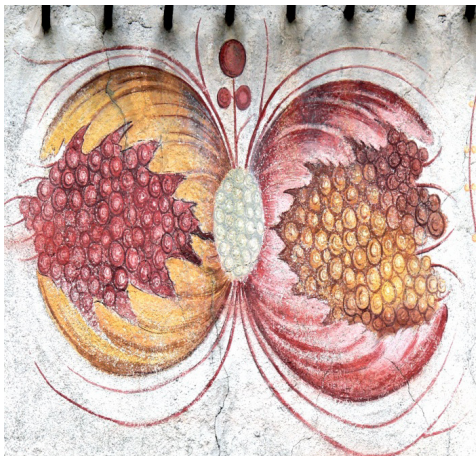
Flowers of *Citrus limon* (L.) Burm. f. [19].

Punica granatum L.



The pomegranate *Punica granatum* are cultivated for thousands of years between the mediterranean sea and the Himalayan region.

Today it is often used as ornamental yard tree and has spread all over the tropic and subtropic parts of the world. In ancient Egypt was the pomegranate a sacred plant. Many sculptures and illustrations show that the Jews also honoured the tree as holy.



Pomegranates in South Tyrol (1550) [20].



Coin with pomegranate (350 - 300 B.C.) [21].



Pomegranates on a tree [22].

Biology



The small tree or shrub has spiny, glabrous branches with angled branchlets. It has 2 - 8 cm long leaves. Those are also glabrous and short petioled, acute and obovate to oblong.

A specific feature are the big, red flowers which grow from the leaf axils. They have numerous stamens and an inferior ovary. The petals are crumpled.



Pomegranate sepals and drying [stamens](#) after fertilization and petal fall [23].

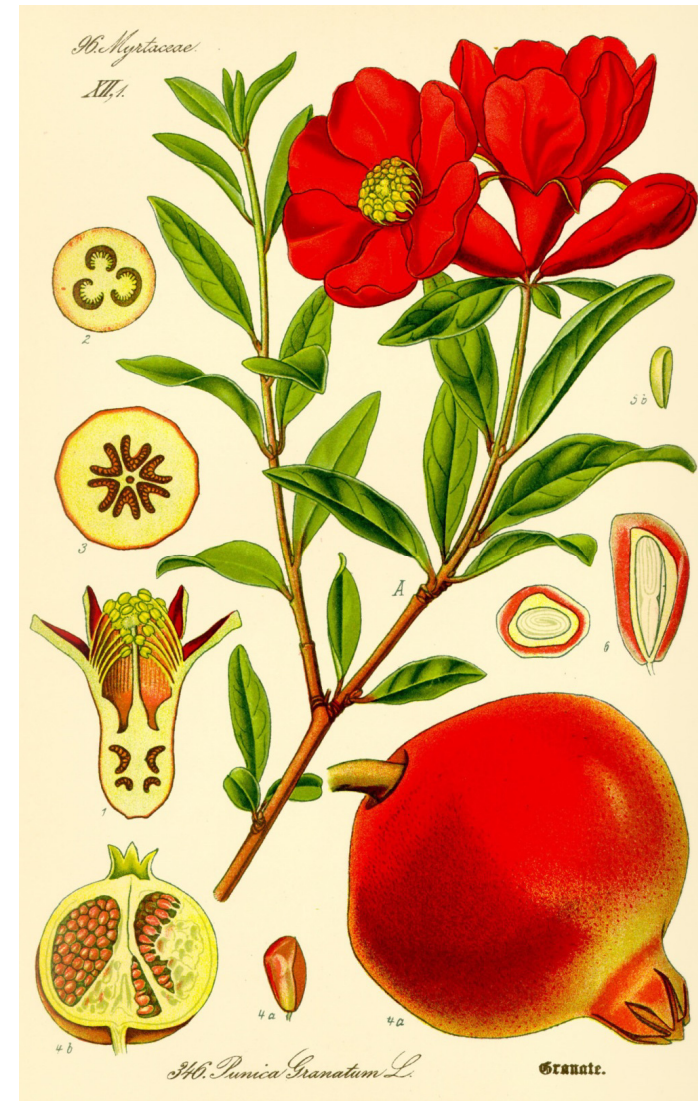


Illustration of the Pomegranate (*Punica granatum* L.) [24].

Processing and Products

Stored at a temperature of 0° - 5°C the fruits become more juicier and more flavorful, they may be kept up to seven months. Before fresh consumption, the clusters of juice sacs have to be removed from the leathery rind. Otherwise, the whole fruit can be pressed, in some countries the juice is a popular beverage. The dried pulp is sold as a spice in India.

Parts of the pomegranate plant also have a wide range of medical uses, as remedy against diarrhea, dysentery, bronchitis or tapeworms. A decoction of the flowers can alleviate oral and throat inflammation.



Salad with pomegranate seeds [25].



Fruit and juice of *Punica granatum* L. [26].

Eriobotrya japonica (Thunb.) Lindl.



Indigenous to southeast China and possibly Japan, the loquat was introduced to Europe in the 18th century. Cultivation spread to the Riviera and whole Mediterranean region. Trees are often found next to the house in Cyprus.

Loquat trees are heavy feeders, they require fertilization. They also have a very shallow root system, mechanical cultivation must therefore be carried out very carefully.

The fruits are harvested 90 days from full flower-opening. To avoid tearing the skin, they are cut from the branch with a sharp knife or clippers.



Illustration of the Loquat (*Eriobotrya japonica* (Thunb.) Lindl.) [27].

Biology

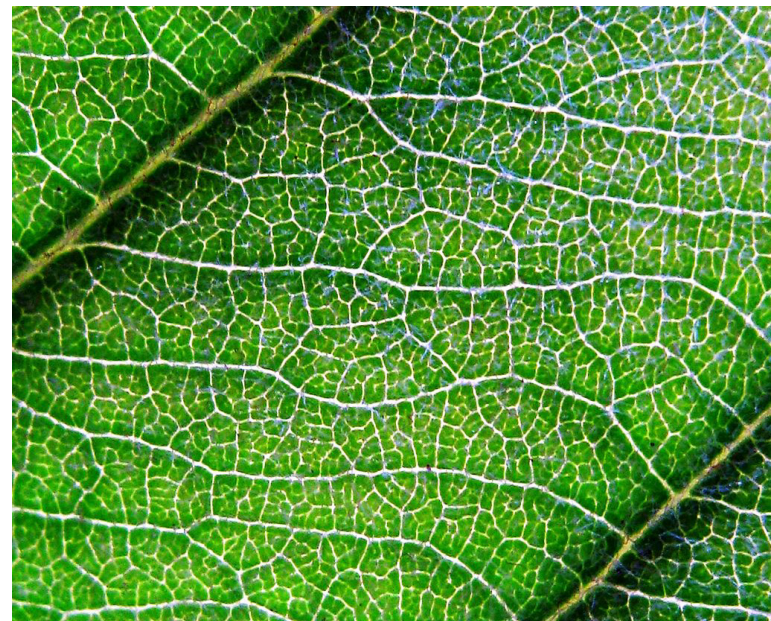


The loquat tree may reach 6 - 9 m and has evergreen leaves. They have a dark-green and glossy upper surface. The underside of the leaves are whitish-hairy or rusty-hairy. In autumn, the tree will form sweetly fragrant flowers in terminal panicles of 30 to 100 five-petaled blooms.

The oval, rounded or pear-shaped fruits mature in early spring. They are yellow to orange with succulent pulp and sweet to acid flavor. There may be 1 to 3 (-10) brown and angular ellipsoid seeds.



Loquat flowers [28].



Loquat leaf, structure of venation [29].

Processing and Products

The fruits are highly perishable and therefore mostly eaten fresh or sold on local markets.

Loquats are used in gelatin desserts or as pie fillings. They can also be canned in sirup, made into jam or jelly.



Loquat in a plate [30].



Loquat, whole fruit and cut by half [31].

Morus species



The mulberries, *Morus alba* L. originates in East Asia, *Morus nigra* L. in West Asia.

Today, they are found in all subtropic countries of the world. It is also cultivated in the tropics in cool mountain climates without frost.

The white mulberries taste rather plain. The black ones taste sweet and nice and are therefore planted in many home gardens as supply of fresh fruits.



Illustration of the Black Mulberry (*Morus nigra*) [32].

Morus species



Mulberries grow as deciduous 8 - 12 m tall trees or shrubs.

Their bark is thornless and scaly. The undivided or lobed leaves have 3 - 5 nerves at the base. Most mulberries are dioecious, some are monoecious. The male trees are grown as ornamentals. Male flower catkins are a bit longer and narrower than female catkins.

All parts of the plant contain white latex. The fruit is black (*Morus nigra*) or white (*Morus alba*) and looks similar to a blackberry.



Female Flower of the Black Mulberry [33].



Mulberry Tree by Vincent van Gogh, 1889 [34].

Pyramus and Thisbe



An old Babylonical myth, incorporated in Ovid's *Metamorphoses*, tells about the black colour of the mulberry fruit:

Pyramus and Thisbe, a pair of ill-fated lovers, met beneath a mulberry tree to flee from their parents. Pyramus arrives first and thinks, due to an unfortunate coincidence, that Thisbe was killed by a lion. He kills himself. Thisbe arrives shortly after and also commits suicide. Their blood splashes on the mulberry fruit and colours the white mulberries black.



Fruit of the White Mulberry [35].



Fruit of the Black Mulberry [36].



Pyramus und Thisbe by Niclas Manuel (1520) [37].

Processing and Products

Ripe black mulberries can be consumed fresh. They have a very pleasant sweet and sour taste. White mulberries taste bland.

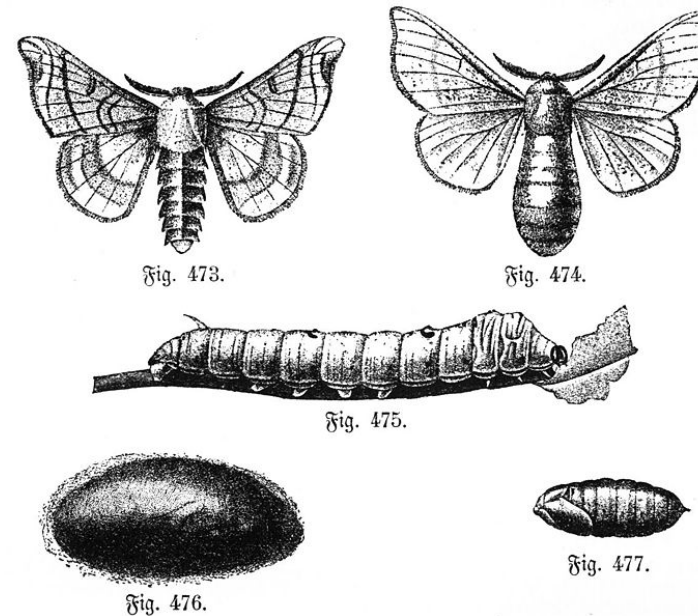
All mulberries are too tender to be handled for the market, that's why they are processed to wine, syrup and jam.

In traditional medicine, the bitter-tasting root has been used to treat intestinal worms. The fruit was also fermented to make a type of wine in the Middle Ages.

Morus alba is also the main fodder plant of the silkworm *Bombyx mori* L. The trees that are planted in Turkey in plantations yield 98% of worldwide production.



Bombyx mori: 21 days old larvae [38].



Bombyx mori: male, female, larvae, cocoon, pupa [39].

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Illustrations



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