

Fruits and Nuts of the Villa Farnesina

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The loggia of Psyche in the Villa Farnesina. The paintings on the ceiling depict scenes from the love story of Cupid and Psyche.

In 1505, an extremely wealthy Siennese banker named Agostino Chigi (1466–1520) decided to build a new home for himself that was to be the most splendid in Rome. A banker to popes and kings, Chigi's *modus operandi* was to lend money and, in return, obtain monopolies for such things as importation of grain or production of alum from mines. He often accepted jewelry for "security." He was in a sense a pawnbroker and a wheeler-dealer who structured his deals so he couldn't lose. He became the richest man in Europe. Chigi was a courtier, very well connected, and truly a Renaissance man. Although not particularly well educated, he bought into humanism, a Renaissance movement that had rediscovered Latin and Greek writings and the mythical legends of the pagan world, was absorbed with nature, and was intensely concerned with the human condition.

Chigi built the most splendid residence in Rome to honor and glorify himself. Chigi's villa, now known as the Villa Farnesina (it was sold

to Cardinal Farnesina by Chigi's heirs after they burned through their inheritance), is located on the West Bank of the Tiber in the district now known as the Trastevere, southeast of the Vatican and east of the Orto Botanico. Here Agostino Chigi, the Magnificent, received artists, poets, princes, cardinals, and the pope in opulence and pomp. At one famous dinner the silver and gold plates were thrown into the Tiber after use—but into nets. The building was an evocation of the classical world, with the rooms filled with paintings and statues, opulent furnishings, and a garden called the *viridarium*, a repository of rare plants. Each room is decorated with a different theme, but this article will concentrate on the loggia, now known as the Loggia of Psyche, originally a veranda or gallery with one wall open to the outside.

The Loggia of Psyche was decorated under the management of Raphael Sanzio (1483–1520), the boy wonder of the high Renaissance and a rival to Michaelangelo Burotti. As judged by



Richly detailed festoons painted by Giovanni Martini da Udine contain thousands of botanical images.

the decorations of his home, Chigi was more interested in the sensuality of the pagan world than on the artistic representation of suffering, torture, and death of the medieval Christian tradition. The decorations—painted between 1515 and 1517—involve love and marriage, perhaps in anticipation of Chigi's marriage to his longtime mistress in 1519, one year before his death. The loggia is presented as a tentlike pergola with images of two large tapestries painted on the ceiling as a roof, depicting a scene of the Council and the Banquet of the Gods—the climax of the Cupid and Psyche story. The arches of the ceiling are divided into spandrels that contain scenes of the heavenly adventures of Venus, Cupid, and Psyche, alternating with severies that illustrate cherubs bearing trophies of the gods.

The Cupid and Psyche myth is based on the first novel that comes down to us from antiquity, known as the *Metamorphoses* (or *The Golden Ass*) of Apuleius, written in the second century but translated to Latin in 1469. The story, which was to become immensely popular, concerns the marriage of Cupid (mischievous God of Love) to the beautiful mortal Psyche (“soul”) leading, after tribulations and

tribulations, to the divinity of Psyche. The underlying theme of the story is that “love conquers all.”

These Raphael frescoes illustrating the heavenly adventures of Cupid and Psyche are stunning, but for botanists and horticulturists an even greater treasure is found on the ribs enclosing the loggia's spandrels and severies. Here, the elaborate festoons and wreaths painted by Giovanni Martini da Udine (1487–1564) contain thousands of images of individual fruits, vegetables, and flowers, encompassing over 170 species (Caneva 1992a,b). The festoons have been deconstructed by scanning the images and collating each species, which makes it possible to examine genetic variability within species. For this article, I will concentrate on images within the festoons of selected horticultural crops, specifically maize, pome fruits, nuts, eggplant, cucurbits, and legumes. It is of particular historical interest that the festoons contain what may be the earliest known European images of maize, pumpkins, and squash from the New World, barely a quarter century after Columbus's encounter with the Americas, providing evidence of the rapid diffusion of these crops into Europe.

THE CROPS

Maize

There are a total of eight groups (28 ears) of maize (*Zea mays*) scattered throughout the festoons. A close examination of the maize ear images suggest that they are painted with some artistic license (Janick and Caneva 2005). Despite the presence of some atypical characteristics (as compared to United States cornbelt maize), the attribution is based on the combination of characters including kernel size and color, ear type (10 and 12 rows are depicted), the presence of white,



The strange tripartite extensions of the ear tips in image are suggestive of rudimentary tassels.



Leonhard Fuchs 1542 woodcut of maize (*Zea mays*) was previously thought to be the first European depiction of the species.

yellow, and reddish silks, and the long, narrow leaves typical of maize. In addition, the historical evidence supports the conclusion that these images may be the earliest representation of maize in Europe, fully a quarter century earlier than the famous woodcut of Leonhard Fuchs labeled *Turcicum Frumentum* (Latin) and *Türkisch korn* (German), presumed to have been the first European image. The depiction of leaves suggests that maize was grown and seen by the artist, probably in the *viridarium*, a repository for rare plants at Chigi's villa, although the original drawings were probably made from detached ears. It seems obvious that most of the multiple ears within the same group are copies of a detached prototype ear. The shank depictions are probably invented since there appears to be an attempt to hide them in most images and those that are drawn are obviously botanically incorrect. Since maize ears have paired spikelets, the preponderance of interlocking kernels is disconcerting. One explanation is that a lack of synchrony of silk receptivity and pollen shed in these nonadapted exotics could cause pollination gaps leading to plump, round seed, and perhaps the artist filled in the voids in an attempt to portray perfection.

Maize has been cultivated in Spain, Portugal, and Italy for five centuries and selection and isolation have produced various races differing in maturity and phenotype. Characteristics of the maize ear phenotypes depicted in the images from the Farnesina can be found in races from Spain (Sanchez-Monge y Parelada 1962), Portugal (Costa-Rogrigues 1971), and Italy (Istituto sperimentale per la Cereali-



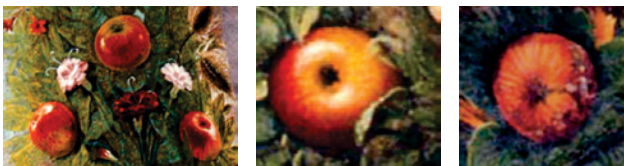
Though the ears don't look exactly like modern American cornbelt maize (note the irregular kernel orientation in these images), they are clearly identifiable as maize.

coltura 2002). The resemblance of the maize images painted in Italy between 1515 and 1519 to races of maize in Spain, Portugal, and Italy is confirmatory evidence for the early origin of some of these races. There is direct evidence that maize seeds reached Rome in 1594. A letter from Peter Martyr D'Anghiera, an Italian teacher connected with the Spanish court, to Cardinal Ascoanio Sforza, vice-chancellor of the papal court, describes news of the early returning ships from the second voyages of Columbus and encloses seed of maize (McNutt 1912; Janick and Caneva 2005).

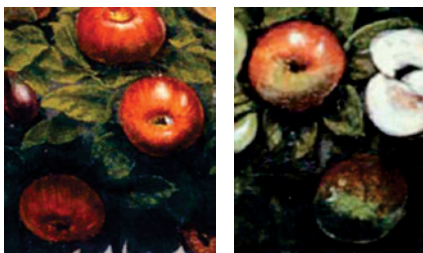
Pome Fruits

Five types of pome fruits are illustrated in the festoons: apple (*Malus*: 97 fruits of cultivated apple and 21 fruits of wild apple); pear (*Pyrus*: 78 fruits of European cultivated pear and 21 of wild pear); quince (*Cydonia*: 31 fruits), medlar (*Mespilus*: 27 fruits), and hawthorn (*Crataegus*: 30 fruits in two clusters). The number of images are indicative of the relative popularity of these fruits in Renaissance Italy.

Of the apple fruits (*Malus* × *domestica*), 34 were solid red, 43 red–yellow bicolored, and



Apples (*Malus* spp.) appear throughout the paintings, including red, yellow, and bicolored specimens.



Examples of pears in the festoons.

20 were yellow. A few show fungal spots. The cultivated apples all resemble modern types in shape and color. There were also three groups of small apples or crabapples (*Malus sylvestris*), each with multiple fruits (21 total) in clusters. One cluster consisted of 7 bicolored fruits, one had 5 red fruits, and the other had 7 dark purple fruits.

Of the pears (*Pyrus communis*), 45 were red–yellow bicolored and 33 were yellowish. The preponderance of red fruits is much different from present day distribution of pear cultivars in Europe, where most are green, yellow, or russet. There were three cluster of small wild pears (*Pyrus pyraster*) totaling 21 fruits, all of varying degrees of red color.

There were 31 images of large quince (*Cydonia oblonga*) fruits, all lobed. Some were obviously mature, with an old gold color, a few were reddish, while others, obviously immature, were whitish or light yellow. All of the quince resemble the “golden apple” as described by Pliny: “cleft with incisions and has a color verging on gold” (Roach 1985).

The 6 groups of medlars (*Mespilus germanica*) totaled 27 fruits, which were small and of the same type. They fit Pliny's description for the small and aromatic 'Anthedon', one of the three types of medlars in ancient Rome. Medlars are still found in Italian markets but are usually larger than the ones illustrated in the festoon.

There are two groups of hawthorn (*Crataegus oxyacantha*, a synonym for *C. laevigata*). They show sprays of fruits, one dark purple with about 22 fruits and the other bright red with 8 fruits.



Left to right. Quince, medlar, and hawthorn fruits.

Nuts

Acorns, chestnuts, hazelnuts (filberts), pine-nuts, and walnuts, are illustrated on the ceiling. Acorns appear among the 8 groups of English oak (*Quercus robur*) and 4 groups of *Q. virgiliana*. European chestnuts are pictured in 3 groups of *Castanea sativa*. European hazelnuts appear in 4 groups of *Corylus avellana* and two groups of *C. maxima* (which some taxonomists lump in with *C. avellana*). Edible pinenuts are



Clockwise from upper left. Acorns, hazelnuts, chestnuts, and walnuts are depicted in the paintings.



The cones of Italian stone pine (*Pinus pinea*) hold large, edible nuts.

represented by 11 groups of Italian stone pine cones (*Pinus pinea*). There are also depictions of English (or Persian) walnuts (*Juglans regia*) in 6 separate groups.

Eggplant

There are a total of 21 images (30 fruit) of eggplant (*Solanum melongena*). The fruits are very similar and are characterized by varying degrees of purple pigmentation and white undercolor.



Eggplant images include several yellow, fully mature specimens.

In some cases the eggplants are deep yellow, indicating maturity. Most of the fruits are club shaped.

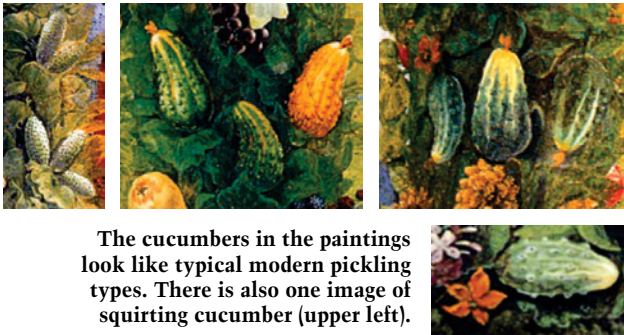
Cucurbits (Old World Species)

Cucurbit fruits from Old World species are well represented (Janick and Paris 2006). Images include *Citrullus lanatus* (watermelon), *Cucumis melo* (melon), *Cucumis sativa* (cucumber), *Ecballium elaterium* (squirting cucumber), *Lagenaria siceraria* (bottle and serpentine gourd), and *Momoridica balsamina* (bitter gourd).

The four watermelon images, each with a single fruit, represent a single type with small, round, striped fruit similar to modern ice-box types. In contrast, the 16 melon fruits include three horticultural groups: Cantalupensis (12 fruits), Reticulatus (3 fruits of two types), and Flexuosus (single fruit). The Cantalupensis types represent four extant cultivars ('Cantalun', 'De Bellegarde', 'Noir des Carmes', and 'D'Alger'), indicating high genetic variability.



Old World cucurbits seen in the festoons include watermelon (upper left) and various melons within *Cucumis melo* horticultural groups.



The cucumbers in the paintings look like typical modern pickling types. There is also one image of squirting cucumber (upper left).

The cucumber images (13 groups, 25 fruit) all resemble the type known as "American Pickling." There is a single image of the so-called squirting cucumber.

Two types of *Lagenaria* fruit associated with white flowers are included: the inedible bottle gourd (var. *fiasco*) which is used largely for utensils, and the serpentine or club-shaped gourd (var. *longissima*), called cocuzza in Italy, that is edible when immature and still consumed in Sicily. There are 9 fruits of bottle gourds with slight variation in color and neck morphology. There are 19 groups (22 fruits) of cocuzza with subtle differences in shape based on the thickness of the calyx end suggesting that some might be hybrids of *fiasco* and *longissima* types. Cocuzza are widely displayed in Renaissance



Depictions of *Lagenaria siceraria* gourds include both the bottle type (with a broad, round base) and serpentine type (long, slender form).

art, probably because of their phallic shape and association with the worship of Priapus, god of orchards and vineyards and the personification of the male generative organ (Morel 1984; Janick 2004).

Finally, there are 3 images (9 fruits) of bitter gourds, known also as balsam apple (*M. balsamina*) and balsam pear (*M. charantia*). Fruits are reddish and slightly warty, with a pointed end.

Cucurbits (New World Species)

Of particular interest for the festoon images are representatives of two species of New World cucurbits: *Cucurbita maxima* (fall and winter squashes and pumpkins) and *Cucurbita pepo*



New World cucurbits seen in the paintings include large pumpkin or squash types of *Cucumis maxima* (upper left) and small gourd type examples of *C. pepo*.

(pumpkins, summer squash, and gourds). Some of these fruits were identified as *C. moschata* by Caneva (1992) but this may be a misattribution. There are 9 fruits of *C. maxima* of two types: brilliant orange, furrowed fruit with a protruding styler end reminiscent of the turban gourds; and white, furrowed, round pumpkins, now called “show pumpkins” in the United States. The images of *C. pepo* are of two types: a large orange pumpkin type and 11 clusters (about 17 fruits) of striped, oviform to pyriform gourds.

Legumes

Six genera of legumes are represented in the festoons including: *Cassia* (1 image, 4 pods); *Ceratonion* (3 groups, 8 pods); *Trifolium* (1 image, flower only); *Phaseolus* (2 groups, 5 pods); *Pisum* (1 group, 3 pods); and *Vicia* (four groups,



Legume genera include (clockwise from upper left) *Phaseolus*, *Pisum*, *Viscia*, *Cassia*, and *Ceratonion*.

15 pods). If *Phaseolus*, a New World species, is indeed represented, (the attribution is open to question) this is still not the first representation of *Phaseolus* in Europe. An image of *Phaseo-*

Pictured Plants at the Arnold Arboretum

IT IS INTERESTING to note that many of the woody plant genera found in the ceiling of the Loggia are represented in the collections of the Arnold Arboretum, including the following:

Castanea
Cornus
Corylus
Crataegus

Cydonia
Hedera
Juglans
Mespilus

Morus
Pinus
Prunus
Pyrus

Quercus
Ribes
Rosa
Rubus

Sambucus
Sorbus
Vaccinium
Vitis



NANCY ROSE

Elderberry (*Sambucus* spp.) images from the Villa Farnesina (upper left: flowers and fruit; lower left: flowers mixed with flowers of *Anemone coronaria* and grapes) and the Arnold Arboretum (right).

lus is found in an illustrated manuscript, *Livre d'Heures d'Anne de Bretagne*, painted between 1503 and 1508 by Jean Bourdichon (ca. 1457–1521) (Camus 1894; Zevan 1997; Bilimoff 2001).

LEGACY OF THE VILLA FARNESINA

The images of the Cupid and Psyche legend and the botanical festoons found in Chigi's villa demonstrate the vigor of the Renaissance humanists in promoting art and science in the beginning of the sixteenth century. The beautiful art work is still admired after 500 years and accounts for a significant flow of tourist money into Italy. These images also contain significant scientific interest, especially within horticulture and agriculture, since they provide information on the genetic diversity of many horticultural plants as well as information about the dispersal of New World plants in Europe.

Chigi, in whose villa the images were displayed, may be a pivotal figure in the dissemination of New World plants in the Mediterranean Basin. He had a garden of rare plants (*viridarium*), was well known to Cardinal Sforza and Pope Alexander VI, was influential in the affairs of the Vatican and the Republic of Venice, and was directly involved in the Mediterranean trade, especially between Venice and Turkey, through his monopolies concerning alum and cereals (Gilbert 1980). We owe a debt to Giovanni da Udine for his skill in illustrating what may be the first images of maize and New World cucurbits in Europe, and for leaving a breathtakingly beautiful visual record of crop diversity in the high Renaissance.

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Additional images can be seen at:

<http://www.hort.purdue.edu/newcrop/udine/info.html>

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