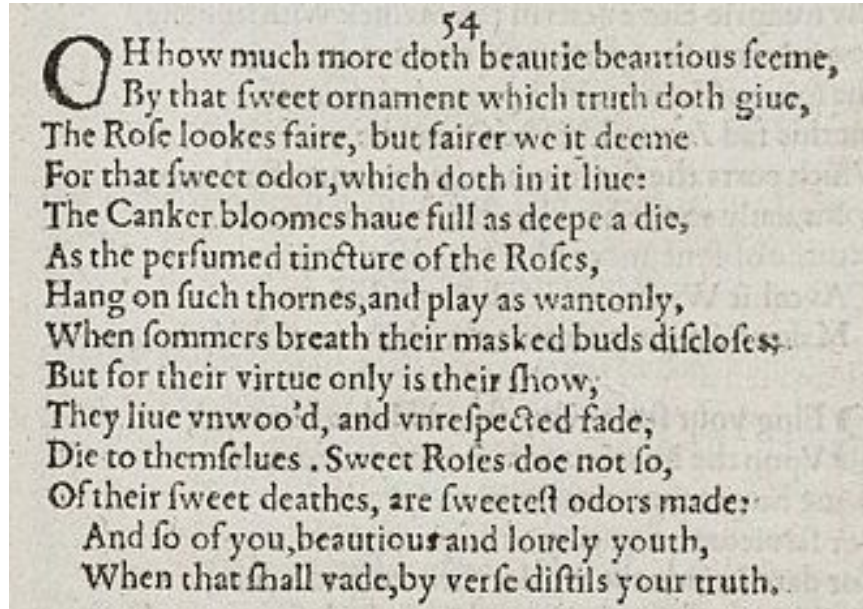


History of Roses: A Prickly Subject

Master Manus MacDhai, OL

Barony of Windmasters' Hill
Kingdom of Atlantia

Sonnet 54 by William Shakespeare



O, how much more doth beauty beauteous seem
By that sweet ornament which truth doth give!
The rose looks fair, but fairer we it deem
For that sweet odour which doth in it live.
The canker-blooms have full as deep a dye
As the perfumed tincture of the roses,
Hang on such thorns and play as wantonly
When summer's breath their masked buds discloses:
But, for their virtue only is their show,
They live unwoo'd and unrespected fade,
Die to themselves. Sweet roses do not so;
Of their sweet deaths are sweetest odours made:
And so of you, beauteous and lovely youth,
When that shall vade, my verse distills your truth.

Topics

What I will talk about ...

- Overview of Roses
- Evolution of Roses
 - Roses in Civilizations Past
 - Roses in Our period
 - Roses in 18th & 19th Century
 - Roses as we know them today
- Humanism and the Rise of Botany and Natural History
- Tales of Two Roses
 - Autumn Damask rose
 - *Rosa canina*: the Dog Rose
- Q & A

Overview

- Members of the Rosaceae family
- Around 140 to 190 species of roses, 47 of which grow wild in Europe, and tens of thousands of cultivars
- Only 10 contributed to the roses we cultivate today
- 4 of those have contributed the trait of remontancy (repeat blooming)

Overview

- Native to the Northern Hemisphere
- Mostly temperate but found from semi-tropical to sub-arctic
- Fossil evidence
 - 70 Million years ago in Asia
 - 35 Million years in North America

Overview

Remontancy and Rose Genetics

- Remontancy:
 - The ability for a rose to bloom more than once in a growing season or year
 - In roses, the gene *KSN* is responsible for coding the protein that suppresses flowering.
 - In some species, the *KSN* gene has a mutation that prevents the generation of the protein so we get repeat-blooming.

Overview

Remontancy and Rose Genetics

Chromosome Diversity in Roses

- Rose species vary dramatically in their chromosome numbers
- All roses share a base set of 7 chromosomes
- Wild roses can have anywhere from 2 to 10 complete sets of these chromosomes:
 - Simplest: 14 chromosomes (2 sets)
 - Most complex: 70 chromosomes (10 sets)
- About half of all rose species have the basic 14-chromosome pattern

Overview

Remontancy and Rose Genetics

Therefore the level of remontancy can vary between different rose varieties based on the ratio of the number of chromosomes carrying the mutated *KSN* gene to the total number of chromosomes with the *KSN* genes.

How Do We Know 'A rose is a rose'?

Good Question...

- The farther we go back, the harder it is to be sure ...

Roses before our Period

Prior to 600 CE

- Cultivated for at least the past 5000 years
- Known to be cultivated in Babylonia and Assyria
- Theorized purposes for cultivation:
 - Religious/Sacred purposes
 - Cultural purposes
 - production of rose water
- Egyptian tomb painting dating from 14th Century BCE
- Records of roses in gardens in China and Greece

Roses in Classical Times

Prior to 600 CE

- Roses in Homer's *Illiad*
- Theophrastus described roses
- Roses defined as what you can do with them (Health & Medicine)
 - Pliny the Elder
 - Dioscorides and *De Materia Medica* (1st Century CE & 6th Century *Vienna Dioscurides*)

Roses in the Middle Ages

The Medieval & Renaissance
Period

7th to 16th Centuries

Bechtel said in 1950:

“We know little about roses between the period of the Roman Empire and the early Renaissance.”

- Bechtel, “Ancient Cultivated Roses”, *American Rose Annual* 25 (1950), Pg 17

But that was 70 years ago ...

Roses in the Middle Ages

The Medieval & Renaissance
Period

7th to 16th Centuries

- Monastic records
- References with regard to agriculture
 - Charlemagne and Capitulare de Villis (c. 800CE)
 - Ibn al-Awan's Kitab al-Filaha (Book of Agriculture) 12th century
 - English Translation 2020
- Theobald IV and the Apothecary Rose
- Production of roses for rose water in Persia, Anatolia, Bulgaria, and the Atlas Mts of Morocco

Roses in the Middle Ages

The Medieval & Renaissance
Period

7th to 16th Centuries

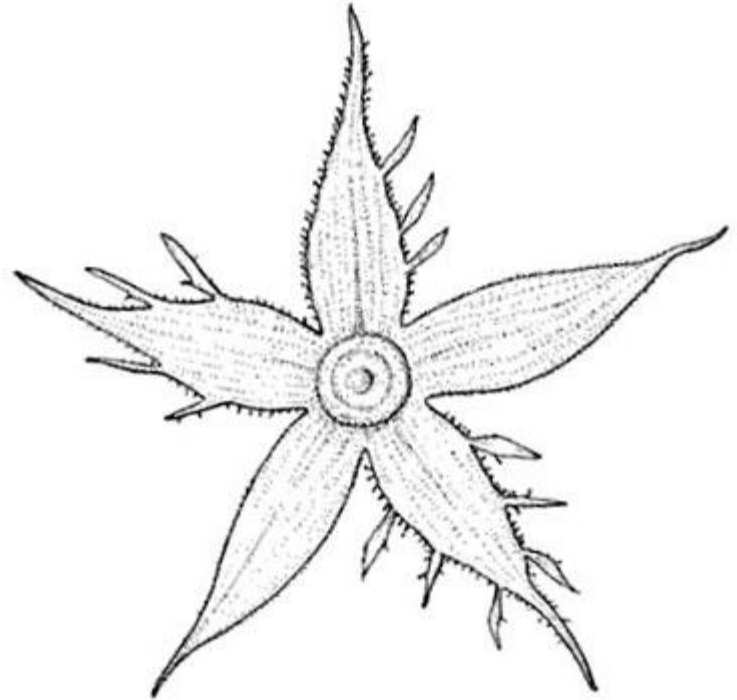
*Quinque sunt fractres
Duo sunt barbati
Duo sine barba nati
Unus e quinque
Non habet barbam utrimque*

On a summer's day, in sultry weather,
Five brethren were born together
Two had beards and two had none,
And the other had but half of one.

-- Albertus Magnus

Roses in the Middle Ages

Albertus Magnus's
Riddle



Demonstration

Roses in the Renaissance

The Medieval & Renaissance
Period

7th to 16th Centuries

- Humanism of the Renaissance
- The Beginning of Natural History as a Science
- Exchange of information & specimens
- The herbal as our window into what was known in the late 16th/early 17th Century
 - Descriptions of a wide range of plants, roses being a few along many
 - Descriptions improved in later herbals

The Spread of Knowledge

Exchange of Information &
Specimens

- Creation of botanical gardens
 - University of Pisa - 1544
 - University of Padua - 1545
 - University of Leiden - 1590
- Networks of correspondents
 - Scholars & nobles
 - Often interconnected



Carolus Clusius
(Charles de l'Écluse)
1526-1609

- Probably the most influential scientific horticulturist of the 16th century
 - 1560s - plant collecting expedition to Spain & exposure to plants from the New World
 - 1570s -1580s - prefect for imperial medical garden of Emperor Maximilian II in Vienna
 - 1593 - University of Leiden - 1st prefect for the new botanical garden



Carolus Clusius
(Charles de l'Écluse)
1526-1609

- Had an extensive network of correspondents across Europe
 - Roughly 1300 extant letters to Clusius from more than 300 correspondents across Europe
- Asked the Dutch East India Company to collect plants and dried plant specimens from around the world

Roses in the Renaissance

Pressed specimen of a rose:

Hieronymus Harder, *Herbarium vivum*

From 1576



Harder, Hieronymus: *Herbarium vivum* - BSB
Cod.icon. 3, [S.l.] Süddeutschland, 1576 - 1600
[BSB-Hss Cod.icon. 3] p. 81v

Demonstration

Herbarium-style Pressed Rose

The Printing Press

The Rise of the Published Book Trade

- Movable type press (Johannes Gutenberg, ~1440)
- Introduction of mass communication
 - By 1500, printing press operations across Western Europe had produced more than 200 million copies¹.
 - The popularity of herbals led to a proliferation of published editions

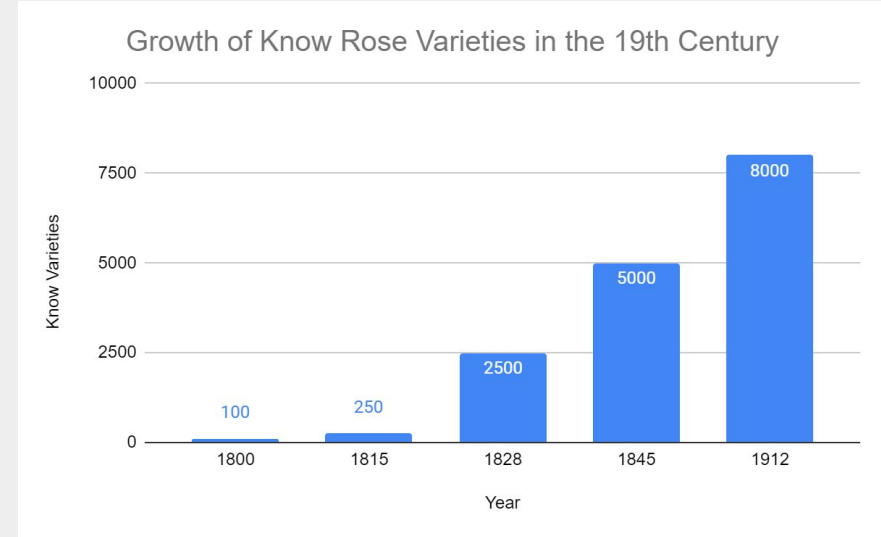
Roses in Modern Times

17th Century to Present

- Age of Exploration and Colonization
- Increased trade with Asia and introduction of Asian roses
 - China Rose
 - Tea Rose
 - Other Asian species

Roses in Modern Times

17th Century to Present



Roses in Modern Times

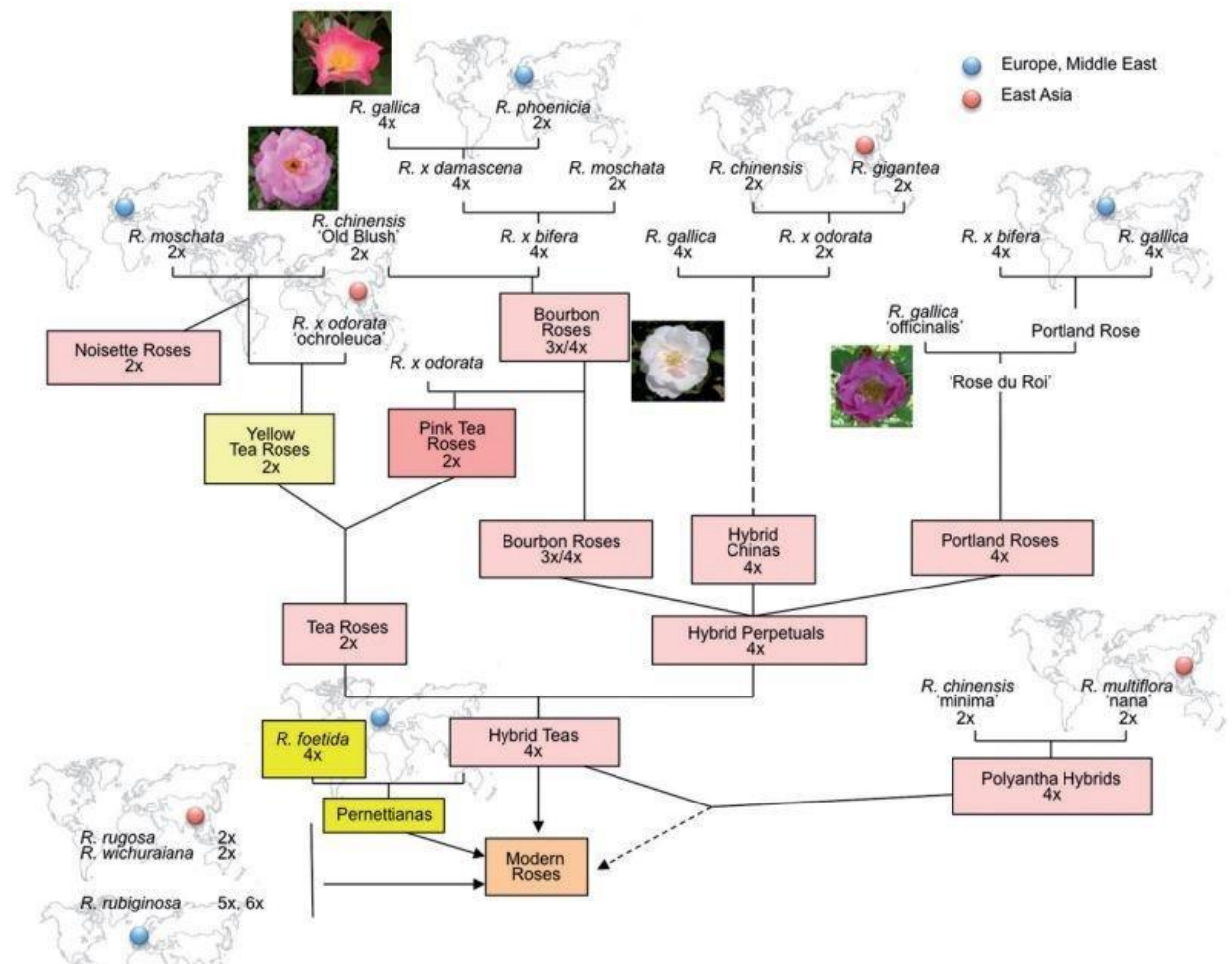
17th Century to Present

- Hybrids developed in the 18th and 19th Centuries
 - Bourbon (chinensis x gallica)
 - Noisette (chinensis x Moschata)
 - Portland
 - Moss (sport of centifolia)
 - Hybrid Perpetuals: link between old and modern roses

Roses in Modern Times

17th Century to Present

- 1867: Guillot introduces “La France”, the first Hybrid Tea
 - Considered the dividing line between Old Garden Roses and Modern Roses
- Modern Varieties (Groups):
 - Hybrid Tea
 - Grandiflora
 - Floribunda
 - Polyantha
 - Climbers
 - Ramblers
 - Shrubs



Bendahmane, Mohammed et al. "Genetics and genomics of flower initiation and development in roses." *Journal of experimental botany* vol. 64,4 (2013): 847-57. doi:10.1093/jxb/ers387

Tales of Two Roses

- Origin of the Autumn Damask
- *Rosa canina*: the
Tausendjähriger Rosenstock

Damask Roses

Autumn Damask / Quatre Saisons

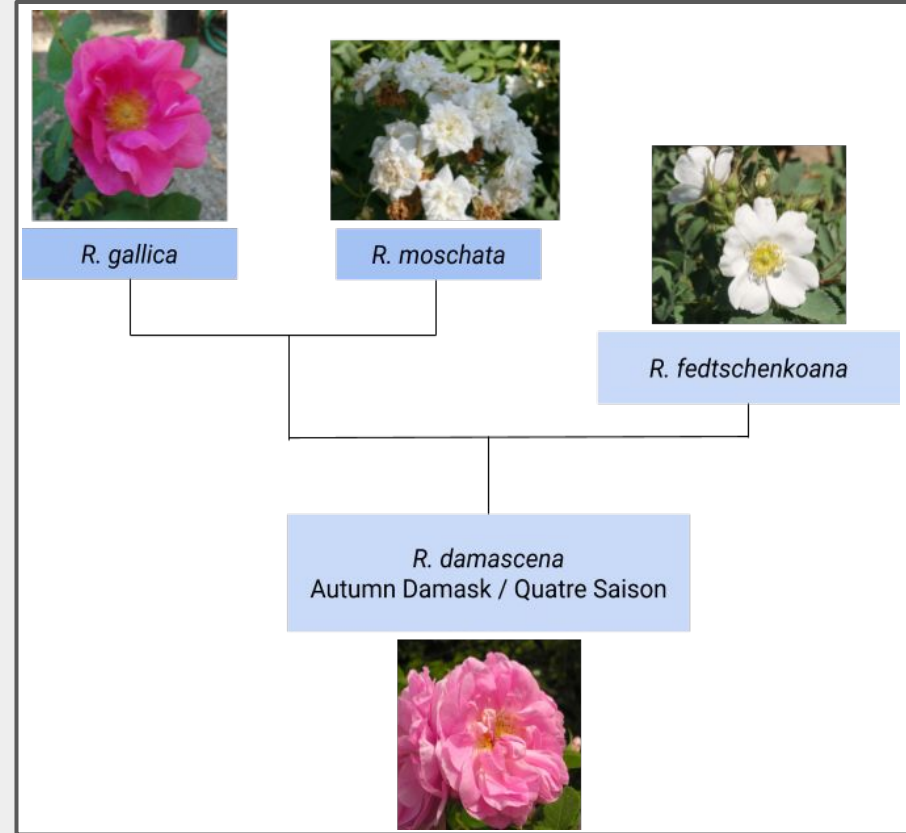
Rosa damascena bifera

Before 1633



© Scott Dean

Damask Roses





Silk Road and the Origin of Damask Rose

By User:Kaidor - File:Silk Road in the I century AD - ru.svg, CC BY-SA 4.0,
<https://commons.wikimedia.org/w/index.php?curid=71237789>

Autumn Damask

Remontancy and Rose Genetics

- *R. gallica* 3x (21 chromosomes)
- *R. moschata* 4x (28 chromosomes)
- *R. fedtschenkoana* 5x (35 chromosomes)

- *R. damascena* 4x (28 chromosomes)

Species Roses

Dog Rose

Rosa canina

Before 1557



© Philip Scott Dean

Thousand-year Rose

Dog rose growing against the
side of the
Hildesheim Cathedral in
Hildesheim Germany



© Philip Scott Dean

Visiting the Tausendjähriger Rosenstock



Hildesheim, Lower Saxony, Germany



Mariendom: Hildesheim Cathedral

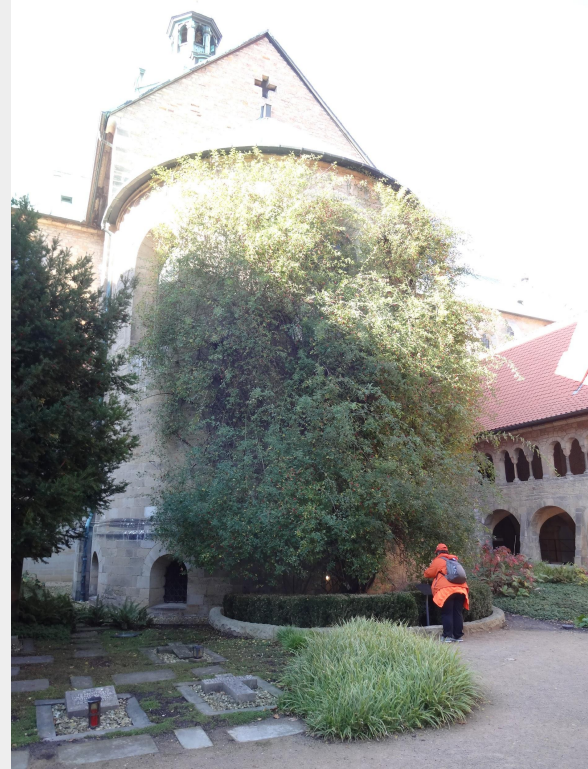


Mariendom: Hildesheim Cathedral



Thousand-year Rose

Dog rose growing against the
side of the
Hildesheim Cathedral in
Hildesheim Germany



© Philip Scott Dean

Visiting the Tausendjähriger Rosenstock



Visiting the Tausendjähriger Rosenstock



Questions?

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Madonna of the Rose Bush by Martin Schongauer (1473)

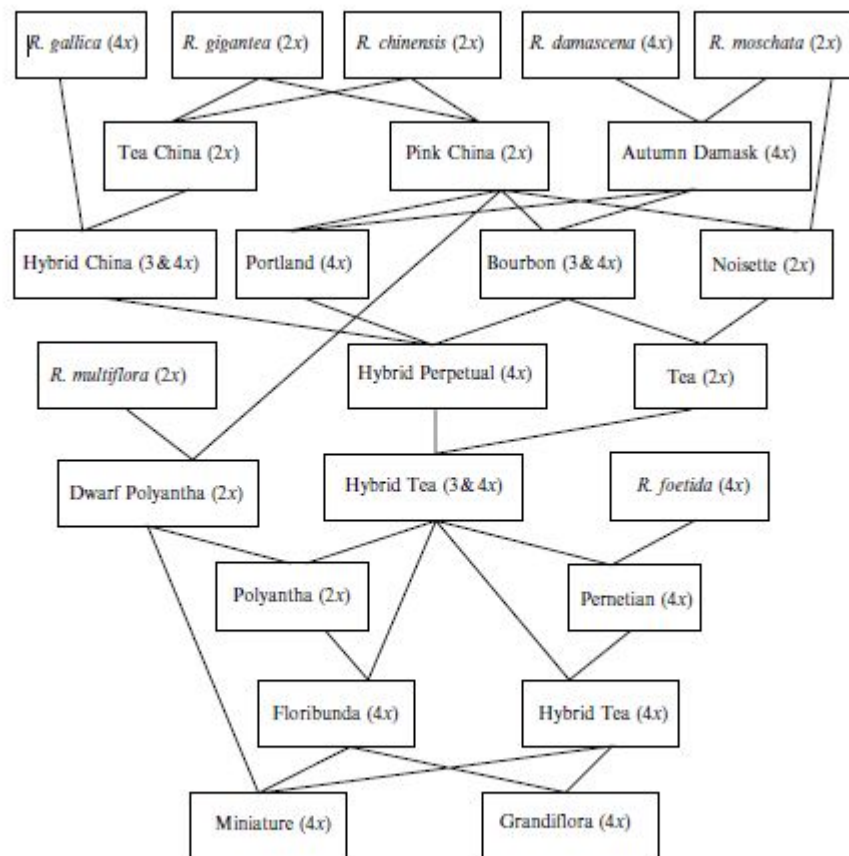


Figure 26-1. The origin of the modern cultivated rose adapted from Stewart (1969).

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Groups of Medieval Roses

- Gallica
- Alba
- Damask
- Centifolia
- Foetida
- Species
 - Native Roses

Gallica Roses

Gallica Roses

Apothecary Rose

R. gallica officinalis

Before 1250



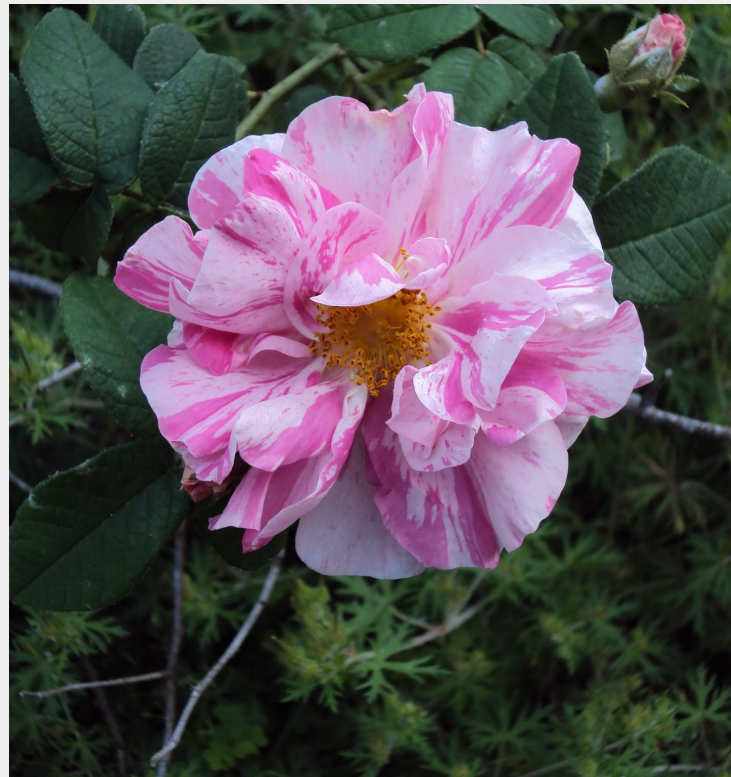
© Philip Scott Dean

Gallica Roses

Rosa Mundi

R. gallica versicolor

Before 1581



© Philip Scott Dean

Gallica Roses

Tuscany

R. gallica 'Tuscany'

Before 1597



© Philip Scott Dean

Gallica Roses

Splendens

R. gallica 'Splendens'

Before 1583



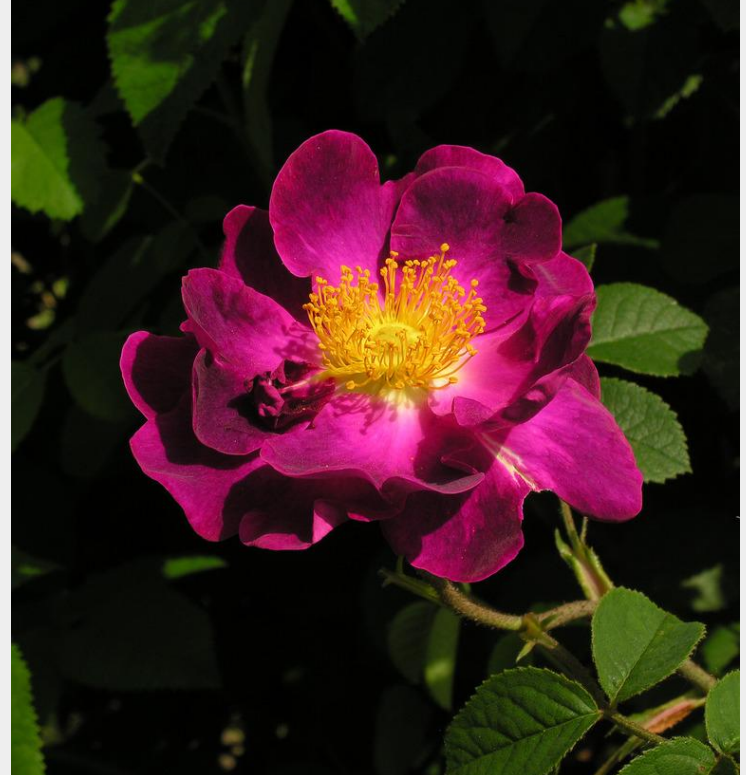
© Philip Scott Dean

Gallica Roses

Conditorum/Hungarian Rose

R. gallica 'Conditorum'

Before 1588



© University of Goettingen - Michael
Schwerdtfeger

Alba Roses

Alba Roses

Rosa alba semiplena

Before 1629



© Philip Scott Dean

Alba Roses

Great Maiden's Blush/Grande Cuisse de Nymphé

R. alba incarnata

Before 1400



© Philip Scott Dean

Alba Roses

Rosa alba maxima

Before 1500



© Eli's garden
(<https://www.flickr.com/photos/43111026@N00/>)

Damask Roses

Characteristics of Roses of the Period

- Bloom only once a year
- More single and semi-double bloom types
- Colors are simple
 - White, pink, or red, with a few yellow
- Bushy in growth habit
- Hardy in their preferred climate

Centifolia Roses

Centifolia Roses

Gros Choux d'Hollande (Great Cabbage of Holland) /
Dutch Provence

Rosa centifolia batavica

Before 1589



By fuzzyjay on Flickr.com (CC BY-NC-SA 2.0)
<https://www.flickr.com/photos/fuzzyjay/3612330255>

Centifolia Roses

Rose des Peintres

R. centifolia 'Major'

Before 1597



© Philip Scott Dean

Foetida Roses

Foetida Roses

Austrian Brier

Rosa foetida

Before 1583



© Philip Scott Dean

Foetida Roses

Austrian Copper

Rosa foetida bicolor

Before 1590



© Philip Scott Dean

Damask Roses

York and Lancaster

R. damascena 'Versicolor'

Before 1551



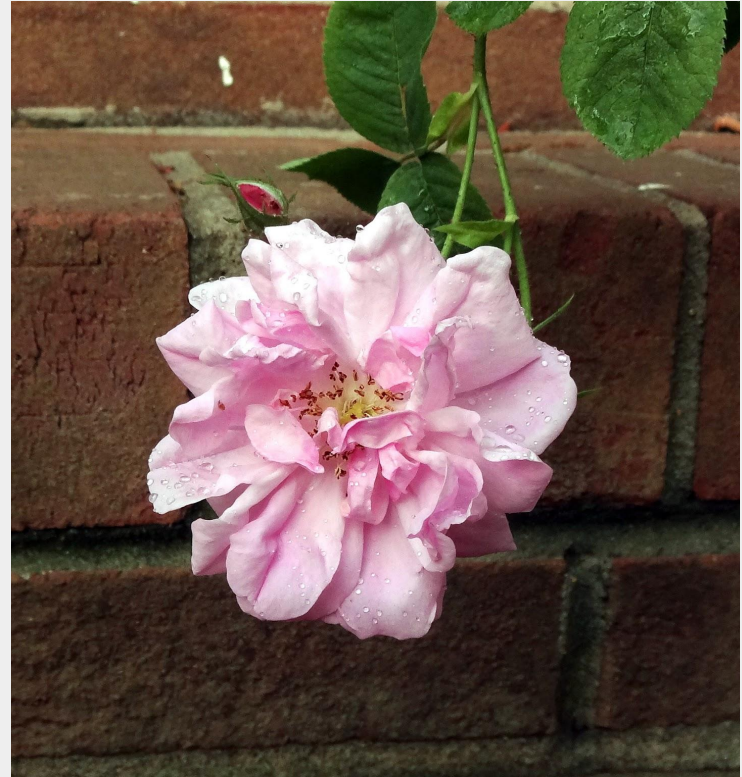
Wikimedia Commons (CC BY-SA 3.0) by A. Barra

Damask Roses

Kazanlik

R. x damascena 'Trigintipetala'

Before 1612



© Philip Scott Dean

Species Roses

Species Roses

Musk Rose: *Rosa moschata*



Double Musk Rose:

Rosa moschata plena (Before 1513)



Species Roses

Sweet Briar:

R. rubiginosa/*R. eglanteria*



Sulphur Rose:

Rosa Hemisphaerica (Before 1600)



Species Roses

Francfort Rose:

Rosa francofurtana (Before 1576)



Double cinnamon Rose

R. majalis plena/*R. cinnamomea plena*



Thousand-year Rose

Visiting in October 2019, the bush did not have blooms but instead rose hips, the fruit of the rose.



Thousand-year Rose

Visiting in October 2019, the bush did not have blooms but instead rose hips, the fruit of the rose.



© Philip Scott Dean

Native Roses

Native species roses that grow wild
and are not generally cultivated

Native Roses

Burnet Rose/Scotch Briar

Rosa spinosissima/ *R. pimpinellifolia*



By Velela @ wikicommons.org (cc-by-sa-.25)

Native Roses

Evergreen Rose

Rosa sempervirens



by H Brisse (upload by Abalg) from Wikicommons (CC BY-SA 3.0)

Native Roses

Field Rose

Rosa arvensis



by Meneerke bloem @ Wikicommons (CC BY-SA 3.0)

Problems with Identification

Why is it so hard to figure out what varieties they grew?

- Written records are scarce and not very detailed
- Different names for the same plant
- Same name for different roses in different places
- Sports and natural variation
- Similar names (Provence and Provins)
- Natural Hybridization
- Grown as an agricultural crop
- A rose was a rose