

## Spring Promenade

The Arboretum is abounding with showstopper blossoms and ephemeral flowers in spring!



Age: All

Time: 45+ minutes

A word about spring: chronological spring occurs during the months of March, April, and May. The actual weather experience during these months in the Pacific Northwest, however, is a continuation of winter: cool temperatures, gray skies, drizzle. Some people find they lack interest and energy during dismal spring months, but the plants in the Lake Wilderness Arboretum are flourishing and changing daily! They remind us that spring really is here, no matter the weather: plants in the Arboretum are putting out new growth and colorful blossoms.

Changes happen fast in the Arboretum, so visit weekly from March through May to see flowers in all your favorite hues and shapes that bloom early and provide stunning fragrance and color. You will see varied-shaped and -colored leaves emerge and fill out bare branches. When gray days plod on and you are looking for spring, remember that you will find it in the Arboretum!



Wherever you are standing at this moment, look around and you will likely see a **Rhododendron** shrub nearby. Rhododendrons grow throughout the Arboretum. These shrubs are used extensively in Pacific Northwest gardens, probably because of the ideal climate here: damp with cool temperatures. Rhododendron is the state flower of Washington and is often referred to as the “king of the shrubs,” because many consider them to be the best flowering evergreen plants for the temperate landscape.

The name Rhododendron comes from the Greek words “rodon,” which means “rose,” and “dendron,” which means “tree”, hence “Rose Tree.” Notice the size of some of the Rhododendrons as you walk toward the Rock Garden. There is good reason to call them a tree; some are more than 10 feet tall.

Many Rhododendrons have similar leaves: dark green and elliptical in shape. But there is actually a wide range with many shapes, textures, and colors, including **variegated (leaves with varied colors)**. The underside of some rhododendron leaves are covered with brown or silver fuzz, called indumentum, which helps protect the leaves from water loss and extreme temperatures.

What is your favorite color today? Red? Orange? Yellow? Pink? Purple? During this promenade, you will see Rhododendrons in many favorite colors! You will also see interesting leaves that are variegated, or decoratively felted with white to silvery hairs, or are dark green and convex.





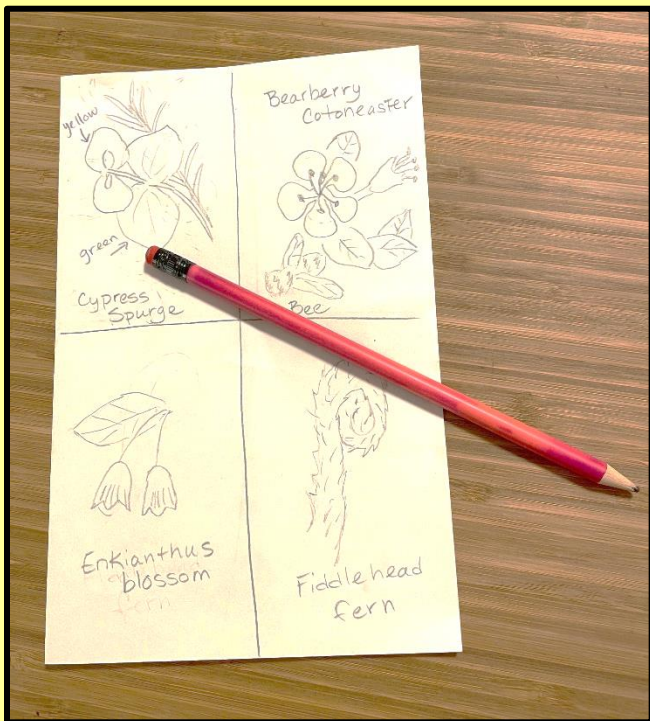
Now on to the tour! This Spring Promenade explores the Arboretum from west to east, exploring highlights, especially flowers, in these gardens:

1. Rock Garden
2. Woodland Garden
3. Perennial Garden
4. Legacy Garden
5. Smith-Mossman Western Azalea Garden

Many animals including ants, hummingbirds, and thousands of bees are busy at work during spring. **Look for these animals while you explore the Arboretum, but do not touch or handle them!**







If you have paper and pencil, you might want to **make a flower sketch journal** to record your observations:

- **Fold one piece of 8.5" x 11" white paper in half crosswise. Hold the fold to the left. You now have a booklet of four pages, sized 4.25" x 8.5".**
- **Divide each page into four sections by drawing a line top to bottom and side to side. You will be able to sketch 16 specimen.**
- **Use a section on each page to sketch a flower or an animal that interests you while on your promenade. Include details of flowers: colors, shapes (bell, star, trumpet), and sizes.**



Let's go!

As you walk to the **Rock Garden**, you are sure to **notice fine yellow particles floating in the air: pollen!** **Pollen** is a **powdery substance released from male pollen cones or male parts of flowers.** It travels by wind or insects to eventually fertilize female parts of plants so they will reproduce.



During spring, pollen is released from grasses and several trees in the Arboretum including Maple, Cedar, Juniper, Cottonwood, and Oak. Pollen can be an irritant for many people and unfortunately, pollen season is starting earlier and remaining longer each year.

## 1. Rock Garden



At first glance, you notice a variety of rocks, stones, and boulders, and low-lying plants growing among them. When you stoop down and look closely the plants will seem to be alive, because there is so much movement. The aliveness is owed to bees that are so busy retrieving nectar from the flowers that they will not notice you looking on!

As you wander through the Rock Garden, **look for spring flowers**. We hope you will find the following five early bloomers that have different shapes and colors. Their leaves are different, too. They won't be here long, so enjoy them! Which will you sketch?



**Alpine Penstemon** is a perennial plant with stems about 10 inches long trailing along the ground. The stems support green oblong **serrated (toothed)** leaves, and magenta tube-shaped flowers.





**Bearberry Cotoneaster** is a bushy **evergreen** (holds its green leaves through the year) shrub about 9 inches high. Its stems spread out horizontally along the ground and have teardrop-shaped leathery, dark green leaves and small white 5-petal flowers.

Red berries ripen in the fall. Can you guess what animal especially likes to eat Bearberry berries?

Do you see two bees in the photo? How many bees can you count on the Bearberry shrub near you?



**Cypress spurge** has yellow-green petal-like bracts and green cypress-like needle leaves and grows about 12 inches high. Blossoms appear in mid-spring.

Do not touch this plant! The stems and leaves contain poisonous milky sap. Late season bracts are red-orange and have tiny hairlike barbs that can cause long-lasting skin irritation.





**Globularia** is a dense mat a few inches high of leathery, oval-shaped green leaves. Purple flowers bloom in mid-spring. They rise above the mat on 12-inch-long stems.



**Rock Cress** is a low-growing perennial with gray-green foliage about 4 inches high. Delicate violet flowers with white centers blossom in April. Bees love Rock Cress, and you might also see a hummingbird.

Can you find another early blooming plant in the Rock Garden? What makes you notice this plant?

Let's walk to the Woodland Garden where you will see some **showstoppers** (plants that attract your attention and make you stop to look at them)!



To get to the Woodland Garden, turn left at the rock sculpture at the western end of the Rock Garden. Make the first right, then the first left.



## 2. Woodland Garden

The Woodland Garden has developed over time under the cover of native Douglas firs; it highlights plants that thrive in Northwest woodlands.



**Continue to the Redvein Enkianthus** tree on the left side of the path. Why do you think we call this tree a showstopper?

Describe the color and shape of the flowers that cover the tree. The oval blue-green leaves contrast with the white and pink blossoms, which makes them even more noticeable.





Let's take a look at another showstopper, right behind the Enkianthus. Get to the **Viburnum Snowball** shrub by walking on the path that curves around.



The stunning Viburnum Snowball shrub blooms in April. The balls of blossoms begin as light green and then turn white. How many little blossoms do you guess are in a snowball? The green fuzzy leaves of the Viburnum Snowball shrub have serrated edges (like the serrated leaves of the Alpine Penstemon you saw in the Rock Garden).



As you wander through the gardens, look for another showstopper, the **Japanese Pieris** broadleaf evergreen shrub. Visitors who come to the Arboretum in February and March will see cascades of dangling bell-shaped pink flowers that attract bees and other pollinators.

When you leave the Viburnum Snowball shrub, head toward the west end of the Woodland Garden. **Look down to see lovely spring ephemeral flowers (woodland flowers that quickly develop stems, leaves, and flowers in early spring, die back, and then produce seed)**, growing close to the ground. Stop at the Witch Hazel shrub (it is marked) to see two ephemerals, Erythronium and Trillium, at its base.





**Erythronium** is a delicate-looking but hardy lily-like ephemeral ground cover with pink flowers. Erythronium blooms in March. The flowers hang like pendants, their petals curving back, and the green leaves are elliptical. Erythronium is a perennial (returns every spring) and spreads easily.



**Trillium** is another ephemeral perennial. The white Trillium is recognized by its three green leaf-like bracts and three-petal flowers, which bloom in March. Trillium continues to be interesting after the flowers wither: in late spring it makes a seed with a covering that attracts ants. Ants take the seeds to their nests where they eat the covering and discard the seed, which eventually germinates. **As**

**with all plants in the Arboretum, do not pick Trillium flowers; picking them can kill the plant.**



As you walk east, you will see the early bloomer **Epimedium** at the base of a Maple tree on your right. Epimedium makes a carpet of green heart-shaped leaves. The yellow flowers start blooming in March. They have parts in fours: look for four outer sepals that support and protect the petals, four inner sepals, and four petals. How would you describe the shape of

the Epimedium flower? Some people think it looks like a hat.





As you walk east, turn right before entering the Meadow. You will be in a wooded area and see several ferns on the left side of the path. The **Western Swordfern** is an evergreen perennial fern that is abundant in our Arboretum.

Observe a fern and name some features that you haven't seen in the plants you've looked at so far. Did you notice that ferns don't have flowers? Did you notice the curls?

In spring, ferns produce tight coils that grow from the center of the plant. The coils are called fiddleheads because they look like the scroll of a violin or fiddle. The fiddleheads unroll in early spring to reveal a bright green frond.



When the fronds uncurl, they are pointed, sharp-toothed leaflets. Look closely at some fronds that are unfurled. How are the leaflets attached to the stem (rachis)? Gently turn over the frond and notice the small green bumps lined up in an orderly way on the leaflets. They are called sporangia and have spores inside. Spores are structures that help the plant reproduce. When the sporangia darken, they burst open and propel the spores, which land on the ground and may produce another fern.

Stand next to a fern with fronds that have unfurled. Which is taller—you or the fern? Western Swordferns can grow to 4½ feet high. Deer and rabbits munch on ferns. Some people eat fiddleheads, but be careful: fiddleheads must be cooked thoroughly and they may have dirt or bugs in their coils.



Continue on the path to get to the gazebo in the near distance. Walk around the outside of the gazebo to see more early blooming plants. Can you find the **Elephant Ears** and **Allium Nigrum**? How would you describe the shapes of their flowers? Maybe you could sketch the Allium.



Walk east through the Meadow to get to the next stop: the Perennial Garden with its many garden beds.

### 3. Perennial Garden



Beginning mid-spring, the Perennial Garden is full of color! You could **make a list of the many different colors you see in the Perennial Garden beds.**



Visit the **orange Poppies** by the nursery gate. Bees are gathering pollen (there is no nectar in poppies) from the flowers' long filaments. Pollen is a food source for bees, who carry it on their legs and bodies back to their hives.





The tall **creamy-white Old Garden Rose** shrub blooms in spring. It is so fragrant! These roses belong to a class that existed before the introduction of the first modern rose in 1867. (Return in summer to see the neighboring pink Old Garden Roses in bloom.)



Colorful **Peonies—red, white, yellow, magenta**—begin blossoming in spring. Some are as fragrant as roses! Don't worry when you see ants crawling on peony buds: the ants are eating sugary droplets the flower produces. The ants get a tasty meal and keep other insect pests away from the flowers.



**Yellow Bearded Irises** are the first variety of Iris to bloom in our Arboretum, then **purple and white** Irises. Can you find Irises with and without **beards (soft hairs on outer petals)**? Irises in the Arboretum are perennials that grow from **rhizomes (horizontal underground stem)**. These early bloomers attract hummingbirds.

Be still and maybe you will see a hummingbird or two come to feed on the flowers' nectar.





**Pink, white, and purple perennial English Columbine** grow in nearly every bed in the Perennial Garden. Columbine grows to be about 2 feet high, the flower stems towering over the leaves, and spreads quickly. Like the Iris, Columbine attracts hummingbirds. How would you describe the Columbine flower to a friend? So many parts to mention! Can you sketch this flower?

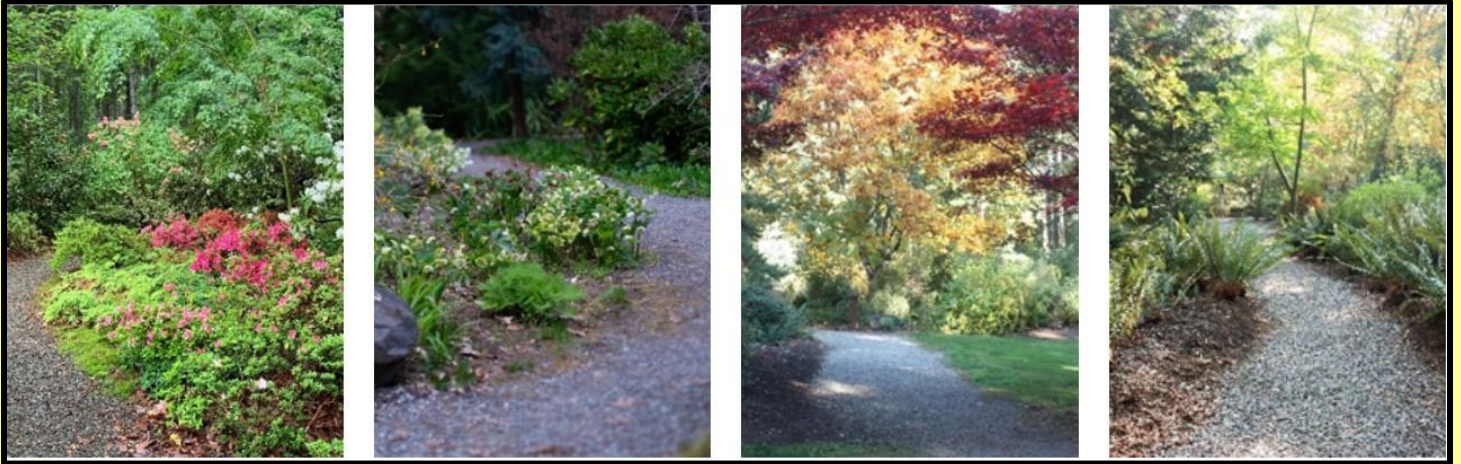


Flowers of different colors grow next to each other in the Perennial Garden beds. **Find two or more colors next to each other that please you. You could make a quick sketch of the scene to color when you get home.**

Follow the Arboretum main trail past the Perennial Garden. The Legacy Garden is on your left and the Smith-Mossman Garden is on your right. We will explore the Legacy Garden first.



#### 4. Legacy Garden

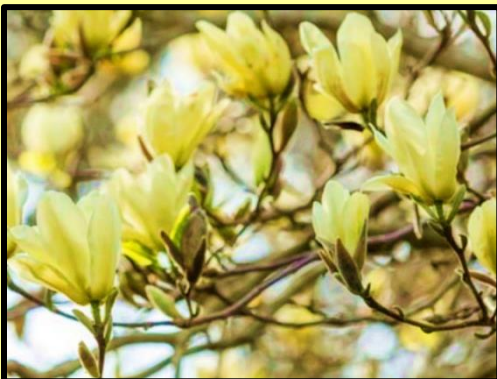


A legacy is something left behind to remember and commemorate someone's contribution. The Legacy Garden celebrates two well-known PNW gardeners by preserving plants from their personal gardens. There are many spring treasures in this garden. Come see a few! When you walk the paths of the Legacy Garden, look for these early bloomers.

A handful of our several **Magnolias** bring elegance to the Legacy Garden in the spring (return in the summer to see other Magnolia blossoms). Each of the below Magnolias is **deciduous (loses its leaves in the fall)**. Each is beautiful, some are fragrant. You might decide to sketch more than one!



The first to blossom is the **Star Magnolia**. It has beautiful white star-shaped flowers that bloom February to March.



The primrose yellow **Elizabeth Magnolia** blooms in early spring on twig tips just as new leaves begin to unfurl. The cup-shaped flowers can be 8 inches across and are fragrant.





**Nigra Magnolia** has slightly fragrant dark reddish-purple flowers that blossom in late spring. They are upright and tulip-shaped.



Did you find the **Oyama Magnolia** growing near the Little Free Library? Its fragrant flower is white with a red center. This Magnolia blooms in May.

In addition to Magnolias, come find more spring flowering shrubs and trees in the Legacy Garden.



For example, the **Carolina Allspice** shrub should be easy enough to find. Its flower, leaves, and bark are all very fragrant! Its maroon flowers bloom in mid-spring.





Look down to see the **Pulmonaria**. Pulmonaria have beautiful and interesting flowers and leaves! The plant boasts pink and blue flowers that bloom in March. Are they shaped more like trumpets or hats? The leaves are spotted—the spots are due to the presence of air pockets that cool the under-leaf surface.



Remember all those ground-loving ephemeral flowers in the Woodland Garden? See another ephemeral, **Wood Anemone**, at the base of the Stewartia Tree in the Legacy Garden. The Anemone is a perennial plant that blooms in mid-spring. The pure white double flowers rise several inches above the bed of greens. The leaves die back in summer. The lovely flowers are short-lived, so enjoy them now!

When you have finished exploring the Legacy Garden, cross the Arboretum main path to the Smith-Mossman Garden.

## 5. Smith-Mossman Western Azalea Garden



The Smith-Mossman Garden has one of the largest public collections of deciduous Western Azaleas (*Rhododendron occidentale*) in the world. The plants started as cuttings that Mr. Britt Smith and Dr. Frank Mossman collected from 1966 to 1981. The garden also contains cultivars of many native plants including Vine Maples, Big Leaf Maples, and Dogwoods.





As you walk into the Smith-Mossman Garden in spring, you will notice white cotton-like fluff wafting through the air. The fluff is being released by the 100-foot-tall **Cottonwood Trees** (near the road) in March and April.

The wind carries the fluff which surrounds the seeds, moving it near and far to germinate and grow. This is an irritant to many people and causes a mess on all surfaces. Mature cottonwood trees have thick, deeply fissured bark that helps protect the tree from drought and fire.



The stand-out signature plants in the Smith-Mossman Garden are the **Western Azaleas**! The Arboretum's collection shows the diversity of the species that bloom in mix of pink, white, and yellow, and have varied shapes (frilly, single, double) and size (1/2 inch to 4 inches). Some are known as **chimeras**, which means that the plants have blooms of different colors on different age wood on the same plant. All of them are very

fragrant, which you will notice as you walk along the paths through the Smith-Mossman Garden during spring!

Three early bloomers in the Smith-Mossman Garden are beautiful and especially interesting.



You might mistake the **Mahonia (Oregon Grape)** for a type of Holly because of its prickly holly-like leaf. New foliage growth in early spring is light green to copper-red. Sprays of bright yellow fragrant flowers pop in early spring and attract bees and hummingbirds. (Return in summer to see the plant's blue berries.)





The **Darmera (Umbrella Plant)** appears in early spring as star-shaped clusters of pink flowers on tall stems. They grow before their leaves emerge! As the flowers wither, lobed leaves that resemble umbrellas turned inside grow large and broad.



Do you have a space left in your flower journal to sketch? Maybe you will sketch the spectacular **Camassia**. The blue, purple, and white flowers open and bloom bit by bit from bottom to top of 3-foot-tall stems beginning in April. The flowers will be dormant by summer. How would you describe this flower's shape? What other flowers have a similar shape?

**Thank you for coming to the Arboretum today!** Where did you find spring? Which flowers were most interesting to you? Which spring ephemeral flowers do you remember seeing? What tree-growing early bloomers were your favorites? What animals did you see? Return soon to see more spring!



## The Back Story

### Color Difference of New Growth



Many plants in the Arboretum are sending out new shoots and leaves. It is common for new growth to look vibrant—lighter and brighter in color—than previous years' growth. This fresh green color is often referred to as spring green. There are reasons for this color difference.

Plant cells have structures inside them called chloroplasts.

Chloroplasts are like engines that

absorb sunlight and change it into food for the plant in a process called photosynthesis. Also, chloroplasts contain pigments that reflect color. When new leaves, needles, and shoots begin to grow, their young cells have few chloroplasts to absorb sunlight, and few pigments except the green pigment chlorophyll. We see the light green color because the green light waves of the young chlorophylls are being reflected to us.

As the needles, leaves, and shoots mature, in just a few weeks, their cells will have more and more chloroplasts that absorb more sunlight, and



their chloroplasts will develop other pigments that reflect other colors. So, leaves look darker when they are older because they are reflecting additional wavelengths of color. Also, older leaves are thicker, and have waxy or tough layers that darken their color.

Some new leaves have a red tint in the spring. This is because the plant sends sugar to the cells of the young leaves to boost their growth, and the chloroplasts change the sugar into the red pigment anthocyanin. The red pigment is reflected to us and we see

red leaves. As the leaves mature, the plant uses up the extra anthocyanin and the leaves look green because they are reflecting the green pigment chlorophyll.



## Rhododendrons



There are more than 1,000 different natural species of *Rhododendron*. The wild types, called species (as differentiated from hybrids), are native to the temperate regions of Asia, North America, and Europe, and the tropical regions of southeast Asia and northern Australia: that's all of the world's continents except Africa, South America, and Antarctica.

The family (Ericaceae) into which the genus *Rhododendron* fall, also includes mountain laurels (*Kalmia*), *Enkianthus*, *Pieris*, huckleberry (*Vaccinium*), salal (*Gaultheria shallon*), and sourwood tree (*Oxydendron*), all of which are in the Woodland Garden. There are also several mountain laurels in the Legacy Garden.

Most of the rhododendrons that people grow are hybrids, rather than natural species. *Rhododendron* species as found in the wild grow, flower, are pollinated, and set seed. The seedlings are usually pollinated by the plants of the same species and generally look similar to the parent plants, though there may be small, and sometimes considerable, variations among them. But they remain the same species.

Hybrid Rhododendrons, on the other hand, are plants resulting from the cross-pollination of one species with a different species or hybrid. When this happens, the offspring may look quite different from either parent. Instead of the Latin names given to natural species, hybrids are named in the vernacular, such as 'The Honorable Jean Marie de Montague,' 'Cynthia,' and 'Unique' (all of which are in the Woodland Garden). Rhododendrons are hybridized to produce larger flowers, different forms with different colors, larger flowers that are more cold- or heat-tolerant, etc.

Rhododendrons do not need to be planted in deep shade, which may result in plants that have very few flowers. Light is the primary factor that stimulates flower bud development. Rhododendrons should be planted where they receive sufficient light so that the plants set flower buds. Too much sun will cause leaf damage.



You might wonder about the difference between Rhododendrons and Azaleas. The easy answer is that all Azaleas are Rhododendrons. The genus Rhododendron includes both rhodys and azaleas. Other distinctions between them are made by botanists or gardeners.

- Azaleas are a subgenus of Rhododendron and are distinguished from “true” Rhododendrons by having only five anthers (the pollen-bearing part of the stamen in a flower) as opposed to 10 or more (in azaleas).
- Rhododendrons are usually evergreen while Azaleas are usually deciduous.
- Azaleas usually have single blooms rather than flower clusters like Rhododendrons. An exception is the Homebush Azalea which has a tight ball shaped cluster (Look for this azalea in the Woodland Garden)
- Rhododendrons have large, paddle-shaped leaves and large, bell- or funnel-shaped flowers, while Azaleas have small, elliptical leaves and trumpet- or tubular-shaped flowers.
- Rhododendrons are erect, growing up to 80 feet high, while Azaleas are twiggy, spreading bushes, of smaller heights.

## Azaleas



The Western Azalea is one of only two species of rhododendron native to the West Coast of North America (the other is Rhododendron macrophyllum).





In 1989, the Washington State Centennial Commission selected one of Dr. Mossman's azalea hybrids, [(*R. occidentale* x *R. bakeri*) x 'Santiam'] to honor the state of Washington's 100 years of statehood. ***Rhododendron Washington State Centennial*** flowers are extremely varied, passing through various phases as they age. The buds start out orange-red in early May, opening to pink-edged pale orange-yellow with gilded golden-yellow dorsal. The pale pinks & yellows gradually soften to white, while the uppermost petal remains a vivid glowing yellow. The frilled petals and fragrant flowers fill the garden with charm and sweetness each spring. The large tough leaves are shiny and ruffled; in autumn the leaves turn deep purple and shades of mahogany. It is an azalea truly worthy of its place of honor.



## Old Garden Roses



Old Garden Roses, also called Heritage Roses or Historic Roses, belong to a class that existed before the introduction of the first modern rose in 1867. Some of these roses date back to the time of the Roman Empire, where they were revered for their beauty and fragrance. Old Garden Roses have highly disease-resistant foliage; they are easy to grow and winter-hardy.

Most Old Garden Roses are classified into one of the following groups: alba, gallica, damask, Provence, moss, Portland, China, tea, bourbons, noisettes, hybrid perpetuals, hybrid musk, hybrid rugosa, and Bermuda mystery.