

## Attracting Garden Motion and Wonder

Watching Butterflies gently move from flower to flower or a Hummingbird hover before a flower are but a few of the wonders and rewards gardeners get to enjoy. Fortunately, there are numerous plants with a magnetic appeal for these charismatic pollinators, ensuring the garden is filled with more than just color and texture. A great plant for bold color and the allure for attracting these entertaining pollinators is the Cardinal Flower, botanically known as *Lobelia cardinalis* (pictured above along with *Lobelia siphilitica* at Chanticleer Gardens).



Cardinal Flower is a member of the Campanula family or Campanulaceae and is native to most of North America, excepting the region from S. Dakota north to Manitoba and west to Oregon and British Columbia. The species also extends South through Mexico and into parts of South America. The genus *Lobelia* was first penned by the Swedish botanist and physician Carl Linnaeus (1707-1778) in 1753. The name honors Matthias de L'Obel (1538-1616), who was a Flemish botanist and physician. Aside from studying the medicinal properties of plants, which was the common practice at that time, he co-authored a paper on classifying plants by the foliar shape and arrangement. Not surprisingly, he was also among the first to take notice and publish the difference between the leaves of Monocots and Dicots!



The genus *Lobelia* contains over 400 species of herbaceous and woody species, many of which are native to tropical locations throughout the world. The species *Lobelia cardinalis* was also described in 1753 by Linnaeus. The species epithet refers not to the bird as I had first surmised, but to the red robes worn by the Roman Catholic Cardinals. Although the flowers are typically red in

color, purple and on rare occasions, white flowered forms appear. One common trait throughout the various species is the bilaterally symmetrical flowers, splitting the flower into an upper and lower 'lip' (as pictured above and below right). The flowers of *Lobelia cardinalis* consist of a smaller upper lip, consisting of two petals or lobes that arch outwards to either side while the larger lower 'lip' contains three petals or lobes. The petals fuse to form a tubular, cup-like base wherein the nectaries are located. The nectaries yield a sugar rich fluid that serves as a lure for various pollinators.

Also prominently displayed is the red reproductive column. Stretching from the base of the flower and overarched the lower lip, this column contains 5 male stamens that surround a central female style (as seen at right and below right). Through a process called protandry and typical to many flowers, the male and female parts of a flower mature at different points in time, preventing self-pollination. The five anthers mature first, with the gray tipped and somewhat bearded anthers visible in the image at right. Within several days, the anthers have stopped shedding pollen and the pollen receptive stigma pushes up past the anthers as can be seen in the image below right.

These flowers are radially arranged around tall floral stems or racemes that emerge in late spring from an evergreen basal rosette of foliage. The flowers appear sequentially from bottom to top along the unbranched floral racemes from July into September. The racemes can reach to 1-4' in height depending upon the site location and available moisture. The lower 1/2 of the floral stem is typically clothed in deep green, lance-shaped foliage. The leaves range from 1-4" in length with a serrate margin and appear alternately along the stem. The remainder of the stem serves to attractively display the red flowers that range from 1-1.5" in diameter. Since the male phase of the flowering always appears first, the male flowers appear at a slightly higher point along the racemes than the female flowers.

As previously mentioned, the flowers are much beloved by Ruby Throated Hummingbirds (*Archilochus colubris*), but are also visited by the Black Swallowtail Butterfly (*Papilio polyxenes asterius*) and the Spicebush Swallowtail (*Papilio troilus*) that is pictured below. These butterflies have sufficiently long tongues to reach the nectaries at the base of the corolla tube (all the petals of a

flower are collectively called a corolla) and while feeding, unknowingly pollinate the flowers! As the pollinators reach into the corolla to collect the nectar of a 'male' flower, the overarched anthers deposit pollen on the top of the head or body, which is transferred to the stigma of 'female' flowers visited subsequently. An ingenious way to ensure pollination!

Another interesting Lobelia to add to the garden is *Lobelia siphilitica*, the Great Blue Lobelia, pictured below right. Once again, it was named by Linnaeus in 1753, and the rather interesting species epithet refers to





the original, yet untrue notion that the plant was able to treat venereal disease. Often blooming a week or two later than its cousin, this plant is native to the eastern two thirds of North America and typically reaches heights of 1-3'. Aside from the different flower color, the plants are nearly identical in appearance and attraction to pollinators.

There are a number of dark red foliated forms of *Lobelia cardinalis* on the market as well, including 'Victoria', which was one of the earlier selections along with 'New Moon Maroon' (pictured below, photo credit Lisa Stravinsky) that was found by James Brown at New Moon Nursery in Woodstown NJ. An ever so slightly darker form called 'Black Truffle' was found in West Virginia. All of these forms offer attractive deep red foliage, but my preference still lies with the green foliage forms typical of the species; I find that the red foliage often diminishes the impact of the red flowers compared to the complimentary color provided by the green foliage! To my knowledge, there are no selections of *Lobelia siphilitica* on the market.

Both species of *Lobelia* prefer soils that are damp to moist with ample amounts of organic matter. They are tolerant of soils that dry out from time to time, but the plants will be shorter and less likely to produce seedlings. Plants are hardy in zones 3-9 and grow well in full sun to lightly shaded conditions. Following pollination, the flowers will yield green seed capsules (as seen in the image below) that quickly turn to tan. The stems will



also gradually turn tan with a basal rosette of green leaves remaining at the base. As the round seed capsules age, they develop small holes along the top much like a pepper shaker, from which the fine seed is scattered as the stem rocks back and forth in the wind. From seed, the plants will appear as basal rosettes of foliage for the first 1-3 years before commencing to flower. *Lobelia cardinalis* will typically last 3-5 years in a garden setting, but its short life should not be considered a liability, as it produces ample seedlings to ensure the original plant will never be missed! *Lobelia siphilitica* typically lasts a little longer and naturally occurring crosses do occur, whereby the flowers assume a more maroon color than red. Due to the presence of toxic white alkaloids in the milky latex sap, the

plants have proven to be deer resistant and any hungry gardeners should resist thoughts of foraging for a snack!

Years back I watched several photographers, all anxiously perched on a bench in front of a mass of *Lobelia cardinalis*. They quickly grow impatient after 5 or so minutes and wondered why there were no Hummingbirds. I mentioned they need only patience and before long, their photographic subjects had arrived. The beauty of adding these plants to your garden extends far beyond the electric red and blue floral colors and eliminates any need for patience. The joy of watching Hummingbirds hover or butterflies flutter about the garden whenever you stop to rest adds a new dimension of motion and wonder that many plants simply cannot provide!



Bruce Crawford

Manager of Horticulture, Morris County Parks Commission