





#### Spring 2023

## Discover this Common Native Pollinator. Enjoy Early Spring Ephemerals. Learn About the Herbal Properties of the Yaupon Holly.



### **Greetings Everyone!**

Hi everyone! I hope you are enjoying spring and finding breaks in the rain to enjoy your gardens. Here at MBG, we are busy cutting back grasses and perennials, starting seeds in the greenhouses, pruning our plants that bloom on new wood, and mulching!! I do love the smell of fresh mulch in the spring; it may not be pleasant, but it means that nature is waking up! We have already had a lovely spring with the first round of blooms on plants such as Korean Magnolias, Spicebush (*Lindera benzoin*), Daffodils, Tulips, Redbuds, Ornamental Cherries, and Hellebores. However, that is just the beginning, our woodland ephemerals are starting to wake up too! In our Woodland you can be on the lookout for Mayapple (*Podophyllum peltatum*), Solomon's Seal (*Polygonatum biflorum*), Trillium, Woodland Phlox (*Phlox divaricata*),

Foamflower (*Tiarella cordifolia*), Jacob's Ladder (*Polemonium reptans*), Wood Poppy (*Stylophorum diphyllum*), *Geranium maculatum*, and more to usher in the spring season. Be sure to read Anna Vo's article below on woodland ephemerals to learn more about the magic these plants can bring to your garden. Hopefully, some of you are starting to see signs of hope in plants that suffered in the December Arctic Blast. Many of our Boxwoods and Azaleas that had looked rough are now pushing lush new foliage. (Let's keep our fingers crossed we don't get any surprise freezes in March!) Some plants still have a long way to go and for others, the verdict is still out. We are still being patient and waiting to see how they fair through the month of April, with our fingers crossed!

I've heard a saying that goes something like this, "knowledge of a thing increases the beauty of it." The more intimate our knowledge of something, often the greater appreciation we have for it and the more endearing it is to us. Typically the reason we find plants beautiful lies in their floral display, but their beauty goes so much deeper. Check out what Sherri McCalla has written on *llex vomitoria* and new-to-the-Garden Anne Ballentine on the common Violet. Learning about how these plants were used by Native Americans and by naturalists today, as well as wildlife & pollinators increases my affection and appreciation for each of these plants tremendously. When I see them, I don't just see the flowers and berries, I can see and understand a whole world of life and the usefulness that these plants offer to the world.

I hope to see you all this spring at the Garden! We have lots of new things from our plantings last fall to discover. You'll see several new varieties of Dogwood (*C. florida* and *C. kousa* cultivars) and several dozen Azaleas, including many native Azaleas. Plus it is the first spring for the Woodland Boardwalk area, which was planted this past fall, and there are hundreds of woodland ephemerals in our Woodland. Last but not least, don't forget to come to our plant sales this April. We are having a mini pop-up sale exclusively for spring ephemerals and woodland wildflowers on Saturday, April 1, from 9 am-1 pm, and our big annual Spring Plant Sale on April 14-15 from 8 am-4 pm each day (MBG Members can get a head start and shop the sale on April 13).

and Drove

MBG Director of Horticulture



# In Defense of the Common Blue Violet (Viola sororia)

By Anne Ballentine, Native Plant Curator & Horticulturist

Common blue violets are one of the most well known plants native to the Memphis area. Many people see them as a weed and a nuisance. In fact, common blue violets are botanically interesting, ecologically important, have lovely flowers, and make a good ground cover. They are also a highly nutritious edible plant!

Violets can be seen blooming in early to mid spring. They make a striking display when grown in masses, and their heart shaped leaves make a good ground cover. Their flowers may range in color from white to deep blue with numerous shades in between. *Viola sororia* prefers moist soil and morning sun to dappled shade but will grow in drier, sunnier locations. They may go dormant in sunny locations in very hot, dry weather, but they are tough plants that will rebound when the weather becomes milder.

The flowers we enjoy in spring are showy and produce nectar, attracting pollinators. There is a specialist native bee, Andrena violae, which is a mining bee that only visits flowers of plants in the genus Viola. The seeds produced in spring are the result of cross pollination by bees and possess high genetic variability. This leads to plants that may have the ability to adapt to new conditions. In late summer into early fall, they produce another type of flower that self fertilizes and opens when the seeds are ripe. These flowers are referred to as cleistogamous, from the Greek for closed marriage. The open flowers are referred to as chasmogamous, meaning open marriage. The seeds produced by cleistogamous flowers have low genetic variability, but there are advantages to this reproductive strategy. The plants can reproduce without expending the large amount of energy required to produce showy flowers and nectar and without

relying on the presence of pollinators.

Violets have two reproductive strategies; they also have two methods of seed dispersal. The seed capsules open explosively, sending the seeds up to three feet away from the mother plant. This is called ballistic dispersal. They are further dispersed by ants. The seeds have a fleshy appendage called a eliasome which is high in fats and proteins. Ants carry their seeds into their nests and feed the eliasome to the developing larvae. They discard the seed intact, and they will germinate there given the right conditions. Seed dispersal by ants is called myrmecochory, a seed dispersal strategy employed by several spring ephemeral plants.



In addition to the faunal associations, *Viola sororia* has with bees and ants, they are a larval host to several species of Fritillary butterflies found in Tennessee. The caterpillars of Variegated, Diana, Great Spangled, Aphrodite, and Meadow Fritillary butterflies feed on the leaves of plants in the genus Viola. Growing violets in your garden will attract these beautiful butterflies to your yard and help support their populations.

Common blue violets provide food for bees, ants, and butterflies. They are also a highly nutritious edible plant for humans. Their leaves contain large amounts of vitamins A and C. Harvest the leaves when they are young and tender and use as you would baby spinach, they have a very similar flavor. The flowers are also edible. Add them to salads as a colorful garnish or candy them and use them as a beautiful decoration for desserts!

Growing common blue violets in your garden will support the pollinators associated with them and provide an early spring pop of bright flowers in a wide variety of garden locations and conditions. Dense clumps will shade the soil and help suppress invasive weeds. *Viola sororia* should not be considered a weed, instead it should be seen as a great native plant for the garden!



### **Spring Ephemerals**

By Anna Vo, Curator of the Woodland

Spring ephemerals are the first bloomers found on forest floors throughout deciduous forests. These plants are short lived and can only be spotted in wooded areas for a couple of months in early spring, so if you want to enjoy their fleeting beauty be sure to go on a hike before the summer heat arrives! These perennial wildflowers take advantage of the sunlight available before the deciduous tree canopy begins to fill out. During this small window they will grow, flower, get pollinated, and produce seeds. They complete their reproductive cycle within two to three months. By the time the heat of the summer arrives the spring ephemeral will no longer be present; they would have retreated back into the ground where they will remain until next spring. They store enough food in their underground tubers, corms, and rhizomes to last until the following spring. Some examples of these short lived spring ephemerals are mayapples, toothwort, golden wood poppy, Virginia bluebells, trillium, spring beauty, and trout lily.

Spring ephemerals play a big role in the woodland ecosystem because they provide food for wildlife as winter ends. Virginia bluebells (*Mertensia virginica*) are one of the most important early food sources for early season bees. Many species of insects depend on spring wildflowers for early food. The Virginia spring beauty (*Claytonia virginica*) is visited by as many as 70 species of insects.

Also, these spring flowers have symbiotic relationships with wildlife. Symbiotic relationships are associations between two or more species that live together. Many native wildflowers have evolved with ants, and are known as myrmecochorous plants. Wild ginger, trout lily, Dutchman's breeches, trillium, bloodroot, and violets are some examples that are involved in myrmecochory. They developed a seed dispersal relationship with ants. This mutual relationship between ants and native wildflowers benefits all species involved. These plants have elaiosomes on their seeds, which are a white or translucent film that coats the seed. Sometimes they form an appendage that sticks out from the seeds. It is made of protein and of an oily substance called lipids. Lipids are fatty acids. It is very nutritious to ants therefore ants are attracted to it. Ants are social creatures and will carry these seeds back to their home to share. They mainly feed it to their larvae. Once they eat the elaiosome, they discard the seed in their nest or in their colony waste,



consisting of ant frass and the seed has been "planted." Both of these locations have wellaerated rich soils where the seeds can thrive. A single ant colony may collect a thousand seeds over a season! This is a very effective way for certain spring ephemerals to spread their seeds. It is a win-win situation.

Mayapple (*Podophyllum peltatum*) is a native herbaceous perennial. Mayapples have large multi-lobed leaves that cover the forest floor in early spring. If you look under the leaves you may see their beautiful downward-facing white flowers. They are a major food source for box turtles. Box turtles will cut the stem, drop the plant, and eat the ripened fruits. Seeds that have passed through the box turtles are more likely to germinate. It's a favorite of the eastern box turtle, and as the box turtle travels through the woods it disperses the mayapple seeds. This mutualism relationship is one of many among spring ephemerals and wildlife. Even humans have ingested/used spring ephemerals for thousands of years. Many spring ephemerals are edible or used medicinally. Native mayapples have delicious round fruits that resemble the taste and texture of a passionfruit. They can be found under the leaves where the flower once was in mid-July. Although the ripened fruits are edible, the plant itself is highly toxic. Native Americans used mayapples to induce vomiting and diarrhea. They used many other spring ephemerals like yellowwood poppies (*Stylophorum diphyllum*) as dye. Today, the knowledge of plant foraging is becoming more well known, and as a result, spring ephemerals are gaining acknowledgement.



These early blooming flowers appear for only a short period of time but play a big role in their ecosystem. They are colorful and welcome many pollinators with food in early spring. It is important to conserve these plants. We need to rid our woodland and garden spaces of invasive species because our less aggressive native plants can not compete. We need to encourage natives to grow in order to stop our insect population from declining. These species are special and sometimes very sensitive. Trout lilies (Erythronium americanum) will take upwards to 8 years to flower. They form large colonies that can be over 100 years old, older than their surrounding trees. Trout lilies are visited by solitary bees Andrena erigeniae. These are specialist bees meaning they only visit a few plant species, and in this case, they visit trout lilies and spring beauty. If these plants decline, so will the insects and animals that depend on them. When the insects decline, the birds decline, and the whole ecosystem falls apart. These plants

are important to us and our wild friends. This brief moment where the ground thaws and before the leafing canopy begins to fill in is a very magical time in the woods. Go take a walk in the woods and see if you can spot any before they quickly go dormant again!

Interested in adding Spring Ephemerals to your own Garden? Join us on April 1, from 9 am-1 pm, for our special pop-up **Spring Ephemerals & Woodland Wildflowers Sale** at the Nursery at the Garden.

Photos in order of appearance: Virginia bluebells (Mertensia virginica), trillium, and phlox.



### Free Tea?

Article and Photos By Sherri McCalla, Herb & Iris Garden Curator

*llex vomitoria,* or Yaupon Holly, is a 15 to 45' tall, very picturesque, evergreen tree or shrub that is native to the US from New York to central Florida and west to Texas. This Holly has

lustrous, finely textured, dark green leaves that don't have the traditional holly prickles. New leaf growth has a purplish tinge. Large quantities of scarlet drupes hold on the trees from fall and often well into spring. I see Cedar Waxwings partaking of the fruit this time of the year. The bark is white to gray and gives the tree or clump an outstanding visual quality as it seems to glow in the darkness of its own shade. This species includes dwarf forms as well as a few weeping cultivars in both compact and large sizes. Although the guidelines on this multi-trunked selection say that it can get to 45' tall, it generally averages about 20' tall and wide. The trunks can be selectively pruned to make it more tree-like. Yaupon hollies are both male and female and both produce tiny white fragrant flowers in the spring. These little flowers are nectar-rich and attractive to pollinators. Female holly trees are the trees that produce berries if there is a male tree nearby that can fertilize the female flowers. Trees that are in more sun will have thicker canopies, and the females will have more berries. Though they prefer average, well-drained soils, Yaupons are adaptable and can tolerate drought and occasional flooding.

Yaupons make great specimen trees with their showy red drupes, evergreen leaves, and nice form. It does well with shearing and can be used as a screen, hedge, or topiary, or as a windbreak or barrier planting. *Ilex vomitoria* is also a larval food source for Henry's Elfin and Holly Azure butterflies and supports *Colletes banksi* (Cellophane) bees. Cellophane bees only forage on the flowers of *Ilex*.

Yaupon hollies contain the most caffeine of any North American plant with the caffeine equivalent of green tea. In addition to the stimulant qualities, it contains antioxidant qualities equivalent to those of blueberries. Please note: the Yaupon berries are beautiful but have a "low severity" toxicity. Do not eat the berries of the Yaupon.

Native Americans used an infusion of the leaves of this plant to purify their bodies and souls. This was noticed by the Europeans recording the plant and its uses and was



given the unfortunate epithet of "*vomitoria*." The Creek used the leaves in the ceremonial "Black Drink." This drink was imbibed in large quantities during the ceremony to purify the body and soul, purging the system by induced vomiting. There are records of the Cherokee, Natchez, and Seminole tribe using an infusion of the leave for various other medical reasons, and other records indicate the infusion was ingested by the Native Americans of the Southeast just as we drink coffee today – as a pleasant stimulant throughout the day.

Imagine this: harvesting your own coffee substitute from your very own back yard. At one time, the leaves were sold in stores in London as South Seas Tea and in shops in Paris as Apalachine. Why did we lose our connection with this local caffeinated plant? The British East India Company began to see the marketing of the Southeastern US plant as a drink as a definite threat to their tea trade by the late 1700s. England limited the import of Yaupon into Europe. This is when the plant received the scientific name of *llex vomitoria*. The famous botanist William Aiton, of the Royal Botanic Gardens, Kew, England gave the plant it's controversial name. There are some theories that this was a tactic to finish off the American threat to English tea. <u>Matt Stirn of BBC Travel</u> describes Yaupon drink as "a yellow to dark-orange elixir with a fruity and earthy aroma and a smooth flavour with malty tones."

Various recipes to make this drink can be found online. Please note this is a drink or an infusion – not a tea as the term "tea" only applies when the leaves of the tea plant *Camellia sinensis* is included in a drink. Some of the Yaupon drink recipes use only the leaves, others say you may include the tender, green tips of the stems as well. Strip the newest leaves, or prune a skillet-full of stem tips with leaves. Remove and discard any berries. If you are so inclined, you may wash and dry the remaining leaves and stem tips.



Pat the leaves and stems until dry or allow to dry. Spread the leaves and stem-tips onto a baking sheet and roast them at 300-350 degrees Fahrenheit until they begin to turn brown (about 15 minutes). They can also be placed into a skillet and toasted until they are brown. Cool. Break the toasted leaves and stem tips into smaller pieces by rubbing through a colander until they are small flakes. Bring 2 cups of water to an almost boil. Place one tablespoon of the toasty/roasty Yaupon tea bits into a tea ball. Steep for about 3 minutes. Remove the tea ball and dress your drink as you wish: sugar, honey, milk, or

whatever you would normally add to your hot tea.

Want to try it but are not sure about identifying the tree properly enough to forage for it? Search for "Yaupon Tea" on the internet and multiple sellers and brands will appear.



Something you want to learn more about? Email our Director of Horticulture at <u>daniel.grose@membg.org</u>



To read past issues of The Vine Line visit the archive by clicking here.

Visit the Garden | Calendar | Membership | Give | Book Your Event

