MEMPHIS BOTANIC GARDEN
Home of the Goldsmith Civic Garden Center

Vine LINE

Summer 2023

Learn how to support wildlife year-round. Can our tree canopy help fight climate change? Take down these tips on avoiding dangerous bugs.

Hello, My Fellow Plant Enthusiast!

Wow, what a year for storms! I can not remember a summer with as many thunderstorms! It seems every time I turn around the power is out or another tree has been blown down. On the flip side, there is not much I love more than sitting out on the front porch and drinking in the smell of a good summer rain while my boys play in the downpour as if they've never seen rain before!

The peak of summer really is one of my favorite moments of the year. Though seasons are much like my Memaw used to say about her grandkids, when asked which one she liked best she'd reply, "Whichever one is closest to me!" Summer really is the perfect counterpart to the still restfulness of winter, when all is calm and dormant. Summer is a time of life, energy, and

abundance! Many of our favorite plants are putting on their best show, and it keeps coming in waves! A few weeks ago the South was lit up with the oranges and whites of June with daylilies, trumpet vine, elderberry, Queen Anne's lace, daisies, and milkweed (*Asclepias tuberosa*), all of which can be seen with just a short drive along the outskirts of any city. Our food gardens are giving us bounties of peppers, tomatoes, potatoes, cucumbers, blackberries, blueberries, corn, and many other delicious treasures (not to mention delicacies from the backyard grill that are in high abundance in the summer, something about the heat calls men everywhere to the grill).

July brings on the bold colors of Echinacea, Phlox paniculata, Rudbeckia, Lobelia, Monarda, Hydrangeas, Zinnias, Lotus, and much more. We still have much to look forward to, asters, goldenrods, warm season grasses, beauty berry, camellias, and all before the wonderful displays of fall. Plants aren't the only things in abundance, nature is being loud and boisterous everywhere you turn - cicadas, frogs, butterflies and their caterpillars, lightning bugs, ruby-throated hummingbirds, goldfinches, and the not-so-loved creatures like flies, ticks, snakes, and mosquitoes. Everywhere you turn there is movement, color, sound, and abundant life! One of my sons and my favorite summer activities is harvesting *Impatiens capensis* (jewelweed) and making an anti-itch salve to combat all the chiggers, poison ivy, and mosquito bites that they seem to get on a daily basis this time of year. Google it and give it a try, it is as easy as pie to make; easier actually as I can not make a good pie. (Remember to follow the forager's rule and don't take more than 30% and only from healthy populations that are not in the wild.) As hard as the heat, humidity, and insects can be, it is truly a wonderful season. My best gardening advice to you in this time when it's too hot to plant or pull weeds in the oppressive heat, is to just enjoy the show! Listen to cicadas, put out a hummingbird feeder, smell the tall garden phlox, pick some coneflowers and put them in a vase, eat a fresh tomato off the vine, check your milkweed for monarch caterpillars, watch grasses gently move with the breeze, put your toes in a creek, jump in some water, and just drink it all in.

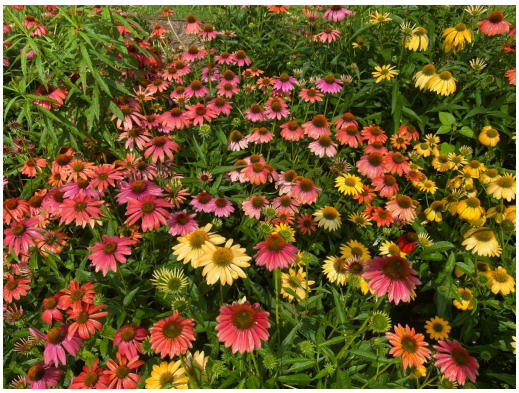
The Memphis Botanic Garden is full of beauty at this moment so please come see us! Enjoy the articles written by Bo (MBG's Arborist), Faye Brown (MBG's Sculpture Garden Horticulturist sculpture garden), and Mary Glenys (MBG's Delta and Pollinator Gardens Co-Horticulturist). Their writings on trees, gardening practices for wildlife, and how to handle pesky bugs will help you to know, enjoy, and live with nature in more meaningful and connected ways! Stay cool!

Happy Planting!

MBG Director of Horticulture

Supporting Wildlife Through the Seasons

By Mary Glenys Espey, Delta and Pollinator Gardens Co-Horticulturist

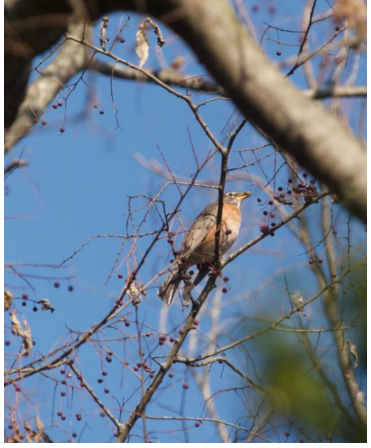


When we design landscapes that support wildlife, we tend to focus on the plants' function during the growing season. To attract pollinators, for example, we typically consider bloom time above all else. However, there are steps we can take to ensure we utilize our garden's potential well after the growing season ends. We can extend the life of our plant species long after they have bloomed and browned; by leaving plants to fully senesce in our gardens, we can maximize their benefits and provide sustenance for the wildlife inhabiting our landscape.

Pollinators are some of the main beneficiaries when we leave dead plant material in our gardens. Many of them are cavity-nesting, meaning they build their nests in naturally occurring cavities that they find, whether that's in brush and leaf piles, dead and decaying wood, or hollow stems. A large percentage of our native bee species create their own chamber nests within dead stems of herbaceous plants, like joe-pye weed. Carpenter bees, for example, create small "rooms" within stems by chewing up plant material to make walls and then lay individual eggs within, along with adequate pollen and nectar reserves to sustain the larva until maturity. This can only occur if they find the materials to do so. We can help them along, ensuring the success of future pollinators, if we leave our plants' stems intact.

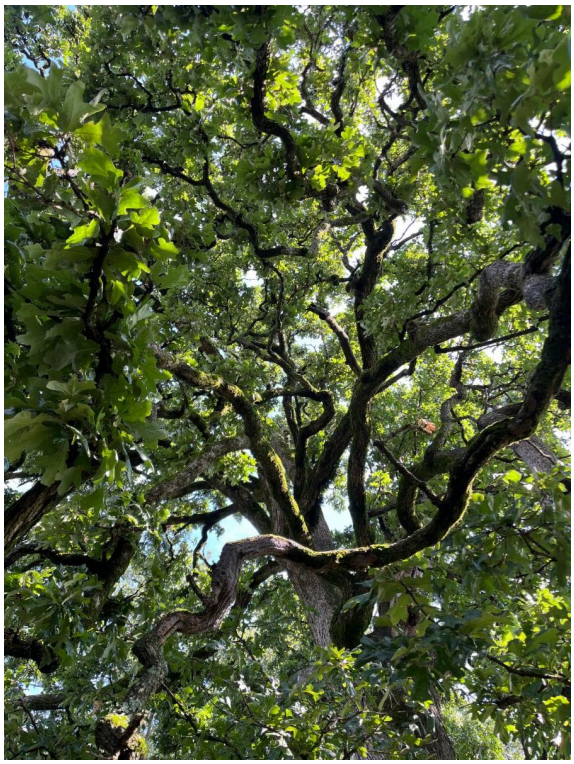
If you want to attract more birds to your garden, why not use the seeds you already have? Many of our common flowers that we plant make excellent food sources, if left to seed. Many dried flower heads, like Echinacea, offer a reliable food source throughout winter. Aside from nutrition, post-bloom plant material is often used by birds to build their nests. Milkweed, in particular, is a great choice for planting (and leaving) in your garden for multiple reasons. Not only does it provide food for a wide range of pollinators, Goldfinches use fibers from the seed pods to build their nests in the late summer.

Utilizing dead leaves in the fall can benefit both wildlife and the



land itself; simply using them as mulch or added to compost provides a plethora of benefits to our garden's ecosystems. Dead leaves are a key component in creating healthy soils; they break down over time and provide nutrients that help our plants thrive for seasons to come. This process is aided mostly by tiny microbes and fungi, who treat the dead leaves as food; a parallel to pollinators and flowers. Coming full circle leaves return to the soil what the plants used during the growing season. Insects and worms then colonize these organic-rich soils, often choosing them as their primary habitat throughout the winter. Birds and mammals take full advantage of this dense food supply, and the cycle continues.

By allowing plants to complete their seasonal cycles, from spring emergence to winter senescence, we create systems that attract and sustain the wildlife within our landscapes. Most of the resources that our native pollinators, birds, and mammals need to survive are already present in our gardens waiting to be utilized. With minimal interference to these resources, we can successfully coexist and support the life that surrounds us. Simply allowing plants to complete their growth cycles ensures that we are providing our ecosystem with the adequate resources that it needs to thrive.



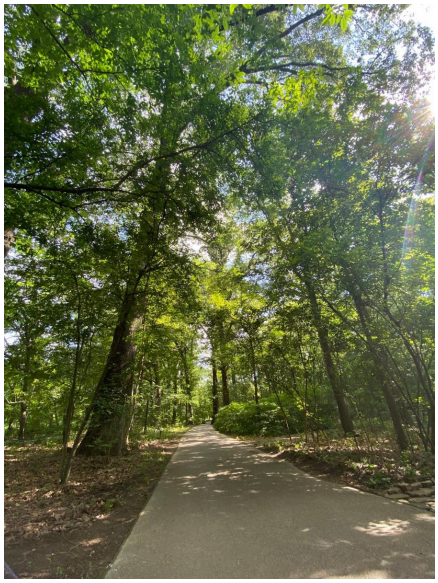
The Last March of the Ents: Range Migration in a Changing World

By Bo Kelley, Arborist

Migration, the movement of species from one place to another, might be the most important survival strategy for life on Earth. Whether following seasonal weather patterns, food availability, or mating opportunities, animals have long utilized migration for survival. Migration is ultimately driven by change. If change is dramatic enough, an environment might become permanently inhospitable. Today, through rapid expansion of greenhouse gases and the destruction of Earth's buffering capacities, our climate is rapidly changing. As a result, some species are no longer able to survive in their natural home range. So, they must move.

Global climate patterns have not only shaped the migration of animals over time, but

remarkably, trees as well. During periods of intense glaciation, North American trees were able to “move” southward as temperatures in their native latitudes began to decline. Seedlings that were distributed into more suitable habitats (i.e., further south) were more likely to survive. As a result, populations shifted south, effectively changing the species’ native range. Once temperatures began to increase, trees moved northward. This extraordinary process, called range migration, is a testament to the resiliency of life. We are witnessing the same thing today, as trees try to keep pace with a quickly changing world by migrating.



Where are the trees going then? “Northward” seems likely, although the answer becomes a bit more complicated when we consider the myriad factors that determine a species’ range. Research suggests that moisture availability serves as a key factor for where a species will migrate. Essentially, trees might be able to survive higher temperatures if they have adequate water to do so. Thus, migration could tend towards wetter climes. Other species might show a general northward trend, driven instead by winter hardiness and an increased ability to survive year-round within warming northern latitudes. Ecological relationships further cloud the story, as some trees benefit from pollinators who might be following their own migration pathways, effectively taking the trees with them. Migratory tracts could then appear in almost any direction. Long-term studies increase our understanding, showing that trees within the eastern United States appear to be migrating westward and northward, as the Mississippi and Ohio river valleys show increased precipitation.

Regardless of the driving force, our landscapes are broken, now severely fragmented due to centuries of agriculture. If migratory tracts appear for trees as our climate changes, their passage might be blocked by land use conflicts. Some trees may become squeezed into ever-shrinking bands of survivability as suitable wilderness areas, through which they could migrate, run out. Most alarming is that regardless of land availability, many trees will not be able to migrate fast enough to keep up with the pace of climate change. Left on its own to deal with our mess, our planet will lose countless species to extinction.

Today, we know that human activity, namely the wild burning of fossil fuels, has led us into this crisis. We also know what we can begin to do about it. Among the host of global changes required of lawmakers and the gluttons of industry, planting trees requires relatively little effort, yet it can have a profound effect on healing our world. Trees must be able to survive to maturity to maximize their contributions. We must make informed decisions about *which* species to plant. It won’t do us any good to plant a tree that won’t survive the climate of the future, even if that species is native. We have to look at what the trees are telling us. Where are they moving?

We might begin looking elsewhere (i.e., further south) for trees of the future. With this approach, we are assisting in their migration to more suitable habitats, using available resources to predict which species will survive the climate conditions of today AND tomorrow. We must be innovative in our plant selection without sacrificing ecological relevance. Some native trees, while providing countless ecological benefits, might no longer be suitable in our area. Non-invasive exotic species, although ecologically inert, could play a crucial role in stabilizing future ecosystems. Further down the road, new relationships could form, creating niches and leading to the evolution of new species, ultimately restoring lost biodiversity. It might “take all kinds” to see us through this crisis.

We will no doubt continue to see dramatic reductions in biodiversity through extinction as we progress further into a changing world. If we assist in the survival of keystone species, those

ecological generalists upon whom so many rely, we might set the stage for future ecosystem stability. This is just one part of the climate crisis puzzle. We have much else to do.

Big Bad Bugs: Tips for Staying Safe in Your Green Oasis

By Faye Brown, Sculpture Garden Horticulturist

Gardening is a rewarding and therapeutic activity that allows us to connect with nature and grow beautiful plants and vegetables. However, the joy of gardening can quickly turn into a nightmare when faced with unwelcome garden visitors like yellowjackets, red wasps, chiggers, ticks, mosquitoes, and fire ants. These pests carry the risk of painful stings, irritating bites, and potentially serious health issues in some cases. Here are some effective strategies to avoid encounters with these garden intruders:

Dress Appropriately:
The first line of defense against garden pests starts with dressing appropriately. Wear light-colored, long-sleeved shirts, pants, and closed-toe shoes to minimize exposed skin. Tucking pants into socks helps to prevent ticks and chiggers from reaching the skin and can also increase their visibility. Additionally, consider wearing a wide-brimmed hat for added protection against stings and bites (a hat also does double-duty as protection from harmful UVA and UVB rays.) And of course, gloves are always recommended.

Choose the Right Time:
Avoiding peak activity times for these pests can significantly reduce the risk of encounters. Yellowjackets and wasps are most active during the day, so consider gardening during cooler mornings or evenings when they're less active. The same holds true for chiggers: they are inactive at temperatures below 60F and prefer to stay put in longer grasses than to crawl across very hot surfaces. Conversely, mosquitoes are most active at dusk (and all day in wet, shady areas), which causes a bit of a conundrum if you're also trying to avoid wasps and yellowjackets. Fire ants are most active during the daytime, though they will defend their nest day or night if disturbed. When it comes to ticks, well… they're on the hunt 'round the clock.

Be Aware:
Speaking from personal experience, my best advice is to look first!

Countless times, I've been attacked by fire ants because I just wasn't thinking about them *just yet* and stepped or knelt on their nest. They appear

literally overnight and are now endemic to our area, so chances are you WILL encounter them even in the most pristine garden setting.

I've also learned (again, the hard way) that it's wise to first scan the area in which I'll be working. What I'm looking for is yellowjacket and red wasp activity. Yellowjackets can be seen zooming in and out of their ground nests, and even nearby noise and vibrations (such as from a lawn mower or hedge trimmers) can result in a stream of ferocious guards making a beeline straight for the source. Red wasps build their familiar honeycomb-shaped paper nests just about anywhere, but it gets tricky when they've done so inside shrubs as the nest camouflages well in the shady interior. Again, look for activity. They'll see you before you see them though, so observe from a distance until you're sure you know exactly where the nest is. If you choose to spray it, wait until dusk when they're less active (they're still going to be furious, but they'll be slightly slower to react.)

When I'm pruning shrubs at work, I don't have the option of waiting until dusk to spray any red wasp nests I encounter, so I keep a can of long-range foaming spray with me at all times; however, yellowjackets are always a big NOPE for me: I call in someone on staff who is braver than I and who has better aim (it also helps he's a former pest control expert). Should you discover a yellowjacket nest, do as I do: back away slowly and call in a pro. It can take a couple days after removal for all signs of yellowjackets to be gone since there will always be a number of them out foraging when removal happens. These strays are said to be less aggressive, but out of an abundance of caution, I prefer to keep my distance until I don't see any at all.

Clear Clutter and Overgrowth:
Keeping your garden tidy can discourage pests from setting up shop in your sanctuary. Remove piles of leaves, fallen branches, and other debris, as these provide ideal hiding spots for ticks, chiggers, and mosquitoes. Trim overgrown bushes and grass, reducing the areas where these pests can breed and thrive. Chiggers in particular, hide out in taller grasses, especially if the grass retains some moisture throughout the day.

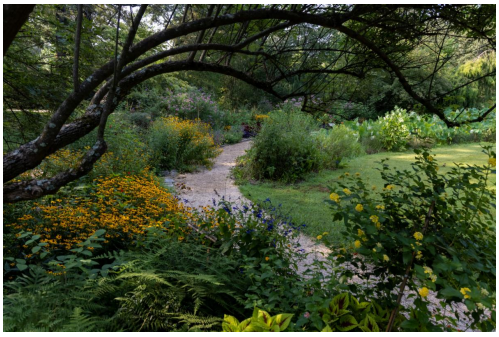
Plants as Repellants:
Many plants are marketed as mosquito repellants - citronella and lemongrass, for example. While it is true oils from these plants are used in natural repellants, simply planting them around your garden unfortunately does not deter mosquitoes. You would have to actually rub the plant on your skin to repel them (but please don't do that as the undiluted oils can be irritating). They are still nice-smelling, pretty plants to consider including in your garden!

Use Insect Repellents:
When working in the garden, use insect repellents that contain DEET or picaridin on exposed skin to keep mosquitoes, ticks, and chiggers at bay. Be sure to follow the instructions on the product label and reapply as needed. For a natural alternative, consider using repellents containing ingredients like lemon eucalyptus oil (I've personally found this particular oil to be nearly as effective as the synthetic heavy-hitters).

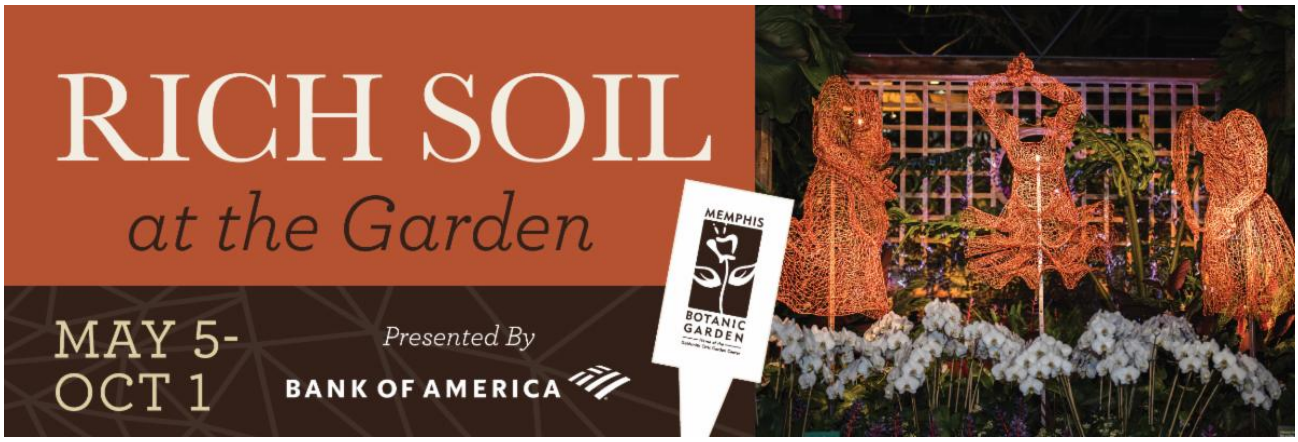
Maintain Water Sources:
Mosquitoes breed in standing water, so regularly inspect your garden for any potential breeding sites. Empty and clean birdbaths, flowerpot saucers, and other containers that collect water. If you have a pond, consider introducing mosquito-eating fish like Gambusia holbrooki to help control the mosquito population. Adding a product like Mosquito Dunks or granules also helps control breeding in areas that consistently stay wet or that can't be emptied. These products contain a naturally occurring bacterium known as Bti (Bacillus thuringiensis subspecies israelensis) which targets only the larvae of mosquitoes, blackfly, and fungus gnats - so it is completely safe to use around pollinators, aquatic life, pets, and children.

Hopefully you'll try out some of these tips for a safer, more enjoyable outdoor experience.

Happy gardening!



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



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