SHORTIA

NEWSLETTER OF THE

WESTERN CAROLINA BOTANICAL CLUB

Spring 2018

Shortia galacifolia

Oconee Bells
ATTENTION: FINAL NOTICE

The Annual dues of $15 for 2018 were payable to January 1st. For those of you who have not yet paid, please write a check to WCBC and immediately mail it to Alan Graham. If you can’t remember if you have paid, you can check with Alan at 828-884-3947 or adgraham@comporium.net.

Checks can be mailed to

Alan Graham
42 Autumn Glen Court
Brevard, NC
28712

If you do not want to be in the Botanical Club anymore, please call or email Alan and tell him.

President       Susan Sunflower       Secretary       Mary Standaert
Vice-President  Gayle Mercurio        Treasurer       Alan Graham
Members at Large Joe Standaert and John Harrison

MEMBER NEWS

Field Trip Cancellations: Occasionally, field trips must be cancelled or changed either for weather conditions or other reasons such as road closings. Such changes are sent out by email to all members by 7 AM the day of the field trip. If you do not have email access, please call the leader, co-leader, or recorder (whose phone numbers are listed on the schedule) to be sure that the walk is going to go as planned. Indoor programs are cancelled when Henderson County Schools are closed (see http://www.hendersoncountypublicschoolsnc.org) but NOT necessarily cancelled because of delayed opening.

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President’s Message

by Susan Sunflower

Trees after hurricanes …

Dagny Johnson Botanical State Park, on Key Largo FL, in November-December, was my first post-hurricane forest. It took a week or more to ‘see’ the trees, not just the forest. Here’s some of what I saw:

Many tree species along the park roads had lost their tops, the trunk and sometimes a few bare branches remained. It seemed the roads acted as wind tunnels through the forest. In the inner forest, occasional trees were toppled, but most remained upright and branched, losing mostly leaves and smaller branches that stuck up above the dense stand of close growing trees.

Willow bustic or white bully, Sideroxylon salicifolium, grows up straight and tall, branching at the top. It has fairly dense wood and a rigid trunk. In open areas along the road, those branches dropped in the hurricane winds. Most had just some trunk left, a snag, but no branches nor leaf buds, the day after the storm. What’s a tree to do?

Willows, poplars, oaks, and others use epicormic buds, dormant under the bark, suppressed during normal tree growth as they grew and branched into canopy. When that canopy was gone, after Hurricane Irma, just snags and lower trunks were still standing, so those epicormic buds got to work. By 1 November, there were fluffy, leafy green coats up the trunks and out any remaining limbs. By late December, the leaf and twig top was reaching out on some trees, beginning to look like a miniature canopy. Soon, a center meristem or main shoot will push up above the others, allowing the tree to grow upwards again. By the end of December, lower leaf clusters were thinning out, no longer needed for photosynthesis to get that tree growing. Those fluffy green coats were adorable, said our visitors.

I’m checking out the next burned hardwood forest I see—bet those leaf and branch losses trigger the same mechanism.

The gumbo limbo, Bursera simaruba, has another technique, the use of its photosynthesizing green under-bark. Gumbo limbos have red, paper tissue-thin bark that waves in the wind and glistens when the sun shines through. The tree limbs are flexible and wind tolerant; those at the gate of Dagny Johnson kept their canopy bud tips. Thus, the day after Irma, with no leaves to interfere with sunlight on the bark, photosynthesis began, and this was the first tree species to re-leaf in the Florida Keys. Other gumbo limbos, several hundred feet down the walk, did lose their canopy limbs. They simply dropped all fluffy red bark facing the sun, exposing more green under-bark, and began sending leaf and twig clusters out at the cropped tree top. One visitor at Dagny Johnson said “Striped maples do that where I live in upstate NY!” So I’ll be looking
for striped maples on our walks. And I can hardly wait to hear what Alan has to say about all this!

**Ethnobotany of the Cherokee**

by Susan Goldsworthy

In this issue of Shortia I continue my series on the ethnobotany of the Cherokee people, examining their relationship with seven sacred plants. Below we explore the fifth of these plants, the Tuliptree.

![Image of Tuliptree](image)

**Tuliptree** (*Liriodendron tulipifera* L.)

**Cherokee Name:** tsi yu

**Description:** The fifth sacred plant of the Cherokee is our native Tuliptree (*Liriodendron tulipifera*) also known as Tulip Poplar, Tulip Magnolia, Canoe Wood, Yellow Poplar, White Poplar, Whitewood, Saddle-leaf Tree, and Fiddle-tree. A member of the family Magnoliaceae, it is a tall, deciduous tree with a long, straight, limb-free bole and a pyramidal crown that becomes oval-shaped with maturity; typically grows 6–9 feet in diameter and 60–90 feet high, but is known to reach 150 feet with a 30 foot diameter; bark is light, gray-green, and smooth when young, developing ridges, white-colored furrows, and diamond-shaped patterns with maturity; red-brown twigs often appear shiny or waxy and have a sweet, spicy odor when broken; buds are elongate and valvate, said to resemble a duck’s bill; bright green, deciduous leaves are 4–8 inches long, alternate, simple, palmately-veined, smooth-marginated, four-lobed with a broad, truncate apex, borne on petioles 2–4 inches long; flowers are showy, goblet-shaped, scentless 2 inches long, with yellow-green, fleshy petals, bright orange corollas and numerous stamens, appearing high in the tree during late spring to early summer, said to resemble tulip (*Tulipa*) flowers; fruit is an oblong, whorled aggregate of 2 inch-long samaras, maturing in August through October with the dried fruit often persisting to the following spring.

**Related Species and Varieties:** Historically botanists have noted two possible varieties of *Liriodendron tulipifera* based on the color of their heartwood—yellow and white.

In the 1780's both Marshall and Michaux described two different trees, one with yellow heartwood growing along streams and in damp locations and another one with white heartwood found in hilly woods and dry areas. The trees with yellow heartwood are easy to split and their timber lasts a long time, while timber from the white heartwood is difficult to split and decays within a year or two. Contemporary botanists
acknowledge two distinct colors of sapwood but deny separate varieties or forms, suggesting the difference in color may be due to the location where they grow.

**Distribution and Adaptation:** One of the tallest native trees in eastern North America, the Tuliptree is found from southern Ontario and Illinois, east to Massachusetts and Rhode Island, and south to central Florida and Louisiana. It prefers deep, well-drained, loamy soils and tolerates a wide range of pH. Known as a good pioneer species, it often dominates new and recently opened forests. This is due in part to prolific and persistent seeds that can remain viable up to 7 years as well as not being a favorite of deer and other browsers because of its strong aromatic odor.

**Name Origin:** The name *Liriodendron tulipifera* was given by Linnaeus in 1754, describing this species as “the lily tree that produces tulips.” The word liriodendron is from the Greek words “lirio” meaning tulip and “dendron” meaning tree. “Tulipifera” is from the Latin words “tulipa” meaning tulip and “fera” meaning to bear. The common names containing the word “poplar” may have been chosen because, like the many poplar (*Populus*) species, this tree’s long petioles cause the leaves to twist and quiver with the slightest wind.

**Cherokee Legends:** The Tuliptree plays a role in many Cherokee legends, including how trees became evergreen or deciduous. The story begins with the Great Spirit telling all the plants and animals to stay awake for seven nights. Only a few animals were able to do this, including the owl and the panther, and as a reward they were given the power to see and hunt at night. And only a few trees succeeded as well, including the pine, cedar, spruce, and laurel, and they were granted leaves that stay green throughout the year. All others, including the Tuliptree, were punished for not enduring and now must shed their leaves every winter.

One legend says that the Storm Spirits who live in the sky and command lightning and thunder would never strike a Tuliptree, and thus the Cherokee would often seek shelter under these trees during a storm.

Another legend says that good “fire-making” trees, like the Tuliptree, had swallowed fire long ago and that man could coax the fire back out of the wood if he knew the proper technique.

The Cherokee believed it was as important to treat dreams of a snakebite as it was to treat a physical bite. Their remedy for these dreams was to remove the inner bark of the Tuliptree and chew it. The bark was always removed from the east side of the tree because they believed this side received the most medicinal potency from the morning sun.

**Cherokee Ethnobotany:** The Cherokee people have many and diverse uses for the Tuliptree in their culture:

**Boats:** Perhaps the most important use of the Tuliptree was the crafting of dugout canoes, thus one of the common names, Canoe Wood. The tree is ideal for this as it grows very straight and tall without lower branches and does not easily split apart. The wood, however, is not especially rot-resistant, and each canoe only lasted about two seasons. Because the Cherokee in our region did not originally have metal tools, the Tuliptree trunk was strategically burned and then scraped out with stone tools and shells to create a hull. Captain John Smith reported seeing Cherokee canoes carrying as many as 40 warriors.

**Fiber:** The outer bark of the Tuliptree was crafted into berry baskets and larger pack baskets. It was also pounded and twisted into hunting belts that were worn on the waist. The inner bark was valuable for producing cordage and rope, useful for many things and essential in the construction of their seasonal houses and lodges. In the winter the Cherokee lived in homes constructed of woven saplings, mud and bark. In the summer they lived in open-air dwellings with bark roofs. All of these structures were bound together with rope and cordage.
Building Materials: The outer bark was cut into slabs and used for shingles and siding on shelters.

Hunting and Fishing: The outer bark was used to make quivers for arrows.

Tools: Twigs were used as fire drills.

Medicine: The Tuliptree was used extensively in Cherokee medicine: leaves were made into poultices to treat sores, inflammation, and headaches; seeds were pounded into a powder and taken as a laxative; scrapings from the inner bark were made into a tea for fevers, diarrhea, pinworms, snakebites, and rheumatic pain; the inner bark was also chewed as an aphrodisiac and to alleviate toothache; the outer bark was boiled into a thick syrup for coughs and de-worming; a decoction from the outer bark was blown through a tube onto fractured limbs, then dried and bandaged; a tea from the roots of saplings was used for digestive disorders. The Cherokee also used the inner bark to treat malaria. It was so effective that it was adopted by colonists and early American doctors as a substitute for the conventional quinine made from the exotic Peruvian Bark or Cinchona (Cinchona officinalis).

Food: Tuliptree flowers produce a nectar favored by honey bees who in turn produce a golden, amber honey prized by the Cherokee. Inner bark was dried and pounded into a flour.

Fuel: Tuliptree wood is excellent for creating friction fire, burning hot and quick but not producing long-lasting coals like other hardwoods.

Other: The soft hardwood was easily carved into spoons, bowls, pottery paddles, and canoe paddles.

References


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*Summary image*
Rosemarie Knoll, one of our newest Botany Club members, has written a book! It is titled “Wildflowers and Waterfalls of DuPont State Forest.” I have had this book open on my kitchen table for a couple of weeks, looking at it several times a day, quizzing myself on the names of the plants. Like a pile of flash cards, it is serving as a good refresher, getting my brain in gear for the spring. Rosemarie has taken wonderful close up photos of some of our tiniest flowers. How enjoyable it is to see them in such stunning detail!

She has organized the flowers first by color and then by season. Every flower has its own page. At the top, we find a beautiful picture of the flower followed by a description of the plant and along which trails in DuPont we might find it growing. A few blank lines at the bottom of each page give us space to write in where and when we saw the flower ourselves.

On a very cold morning in early February, Rosemarie and I rendezvoused at Hooker Falls Parking at DuPont Forest to talk about her book. We sat in her pickup truck with her beautiful Golden Retriever, Charlie, and I asked her lots of questions about how and why she wrote this book. Rosemarie said she became inspired to do this project when she realized there wasn’t an easy to use wildflower book just for DuPont Forest. She wished there were such a book and decided to make one for herself. What started out as a personal project evolved into a much grander endeavor when her friend suggested she actually create a real book. Never having written and published a book before, Rosemarie had to learn how to go about it. She had to buy a program, In Design, which allowed her to create the pages, put in the pictures and write the text. And she had to take all the photographs and do a huge amount of research.

I asked her what a typical day would be like. She would wake up early and after a quick breakfast, she would drive over to DuPont Forest (she lives about a mile away) and spend the entire day walking the many trails, her eye scanning the woods for flowers. She covered up to 10 miles a day, always accompanied by her trusty friend and protector, Charlie, who became so accustomed to the routine he knew to sit down patiently and wait whenever Rosemarie found a new flower to photograph. After a long day of walking and photographing, she’d go back home and right away start studying her pictures, working late into the night researching the flowers and deciding which pictures were good enough to use. For each flower she tried to take about 20 pictures so she would be sure to have a good one for the book. If she didn’t have a good picture, she’d go right back the next day and take more pictures. If she waited, the flower might wilt...
and she'd have lost her chance. It was a whirlwind year creating this book, but Rosemarie did it, and now it is for sale in 16 shops around here, including the Ranger Station and the Biltmore bookshop!

An Exciting Discovery Made by Rosemarie!

An exciting discovery of a rare plant was made by Rosemarie while she was creating her book! Here is her description of this discovery and what ensued, told by Rosemarie herself.

Whorled Pogonia in DuPont State Forest (*Isotria verticillata*)

by Rosemarie Knoll

The Friends of DuPont knew of one location in DuPont where there was a stand of *Isotria verticillata*, which is considered uncommon to rare in North Carolina. It is on the federally threatened or endangered list for a number of other states. I spent quite a bit of time walking the trails in DuPont last year. On one of my walks I found a second, unknown stand of *I. verticillata* along the edge of Sheep Mountain Trail. Unfortunately, it was only 25 yards from where they were harvesting white pines. Logging is an important revenue stream for DuPont and helps to keep the white pine under control, allowing other species to flourish. I was afraid that the stand of *Isotria* could be destroyed the next day since the logging truck was so close.

With the help of the Friends of DuPont, we contacted the Ranger with photos and information on the location of the plants. The Ranger responded immediately and was at the site the first thing the following morning. The logging was temporarily halted in that spot until the Department of Forestry came out and confirmed that it was indeed *I. verticillata*. The DOF also found several other stands of plants in the same area that were off the trial. That area is now off limits to logging and the plants will be preserved. I was glad to be lucky enough to happen on the spot at an opportune time and could do my part to preserve a rare species.
What’s in a Name – *Catesbaei*

by Penny Longhurst

We don’t see Catesby’s Trilliums (*Trillium catesbaei*) very often, but when we do they always look so small and delicate compared to the other trillium species we are more familiar with. They were named after Mark Catesby, an English explorer and naturalist, who published a groundbreaking book describing and illustrating the flora and fauna of North America.

Catesby was born in 1683 in the village of Castle Hedingham in Essex, about 60 miles northeast of London. His father was fairly prosperous and owned property in London and Suffolk, which was left to his surviving children when he died. Thus, Catesby became independently wealthy. In 1712 he accompanied his sister, Elizabeth Cocke, and her children to Williamsburg, Virginia, where she joined her physician husband. Catesby stayed in Virginia for seven years, travelling throughout the vicinity of Williamsburg and up the James River towards the foothills of the Appalachians. Sadly, other than his books and drawings, very few of his papers exist today; we don’t even know what he looked like! So there are no records of exactly where he travelled. In those days such expeditions into the wilderness were not without their perils. Without roads, or sometimes even trails, explorers ran the risk of getting lost or attacked by Native Americans. An earlier naturalist, John Lawson, who travelled throughout the Piedmont of the Carolinas, was killed by Tuscarora Indians in September 1711 while exploring upstream from New Bern along the Neuse River.

Although not formally trained as a botanist, Catesby had collector friends and he sent seeds, pressed and dried herbarium specimens, and plants in “tubs of earth” back to England. He also cultivated plants in his garden in Williamsburg. Reptiles, animals, and birds were dried or preserved in rum for the trip! Collections did not always make it safely across the Atlantic, often running the risk of capture by pirates or loss due to careless crew or storms. Nonetheless, many plants were successfully raised from his seeds in English gardens and nurseries, stimulating great interest in New World flora. Catesby was an accomplished water color artist and drew live specimens found during his travels. He noted that he never drew plants twice in the same season; thus he was able to show developmental changes with his observations. Catesby returned to London in 1719 hoping to return to North America in the near future.

English botanists were keen to obtain more specimens from the Americas. They and the new Governor of South Carolina sponsored Catesby to return and document the natural history of the Carolinas. He landed in Charles Town (Charleston) in May 1722. Initially he concentrated his studies on the surrounding low country regions. Subsequently he spent alternate summers in the low country or in the backcountry, travelling up the Savannah and Edisto Rivers. Although no records of his travels remain, the specimens he collected suggest that he travelled at least as far as Clemson and Keowee. For instance, his descriptions of Catesby’s Trillium (*Trillium catesbaei*) and Sweet Shrub (*Calycanthus floridus*) include the text “This Plant I found at the Sources of great Rivers; not having seen any in the inhabited Parts of Carolina.”

Among the bird species Catesby drew were the now-extinct Passenger pigeon, Ivory-billed woodpecker, and Carolina parakeet. He was one of the first to suggest that birds migrated. Prior to this time, it was
thought that birds, like swallows that disappeared in the winter, hibernated in crevices or in mud at the bottom of ponds! His observations of Dark-eyed Junco were that “In Virginia and Carolina they appear only in Winter: and in Snow they appear most. In Summer none are seen. Whether they retire and breed in the North (which is most probable) or where they go, when they leave these Countries in the Spring, is to me unknown.” He also noted that Bobolinks migrated back and forth from the Caribbean islands to South Carolina in search of maturing rice crops. The introduction to Volume II of his “Natural History” includes a list of birds that either spent the winters in the Carolinas and then disappeared or were there only in the summer.

Catesby spent most of 1725 sketching and gathering specimens in the Bahamas before returning to England and preparing to publish his observations. He never returned to the Americas. Because he would have to pay for publication of his book himself, he advertised for subscribers or “encouragers.” It’s estimated that around 180 copies were sold, including one to John Bartram. “The Natural History of Carolina, Florida and the Bahama Islands” was published in 10 parts of 20 plates each, plus an appendix, at a cost of 2 guineas (2 pounds and 2 shillings) each. Volume I consisted of 100 images of birds, frequently posed with the plants on which they fed or in which they lived. Volume II was divided into sections on fish, amphibians, mammals, and insects, often with related plants. Volume I, Part 1 was published in 1729, and the final issue, the appendix, in 1747. Catesby himself wrote an introduction for each volume, etched the illustrations from his sketches, and wrote the English text on the facing page for each plate. An anonymous “Doctor of Physick” wrote the accompanying French translation. He probably had assistants help color the illustrations. The Latin names (the descriptive phrases used as species names before Linnaeus’ binomial system came into general use) were provided by the English botanist William Sherard. The “Natural History” was the main source for naturalists and explorers, including Lewis and Clark, in the Americas for many years. Catesby’s drawing style influenced many subsequent field naturalists, such as William Bartram and John James Audubon. Interestingly, Linnaeus used several of Catesby’s plates as references when he published his binomial species names.

Catesby died in London in December 1749. Many of his collected specimens are in museums. His watercolors were bought by King George III in 1768 and are housed in the Royal Library at Windsor Castle. About 100 first edition copies of the “Natural History” survive in private collections and museums, including the Smithsonian. A second edition was printed in 1754 and a third in 1771. German, Latin, and Dutch translations were also published. Occasionally copies come up for auction. If you can’t afford $650,000 for a 1st edition, $285,000 for a 2nd edition, or $92,000 for a 3rd edition, digitized versions of the original volumes as well as updated electronic versions can be found on the internet. Catesby’s illustrated book “Hortus Europæ Americanus, or, A collection of 85 curious trees and shrubs: the produce of North America, adapted to the climates and soils of Great-Britain, Ireland, and most parts of Europe” describing American trees he thought would grow well in Europe was published posthumously, in 1767. The Catesby Commemorative Trust has produced two movies about the life of Catesby which are available on Vimeo.

The genus Catesbaea, American Bullfrog (Lithobates catesbeianus), and the following plants were named in Catesby’s honor: Calystegia catesbeiana subsp. catesbeiana (Catesby's Bindweed); Calystegia catesbeiana subsp. sericata (Blue Ridge Bindweed); Clematis catesbyana (Coastal Virgin’s-bower); Gentiana catesbaei (Coastal Plain Gentian); Leucothoe axillaris (Coastal Doghobble) formerly L. catesbaei; Lilium catesbaei (Catesby's Lily); Quercus laevis (Turkey Oak) formerly Q. catesbaei; Sarracenia ×catesbaei (S. purpurea × S. flava) (Catesby’s Pitcher Plant); Silene catesbaei (Fringed Campion); and, of course, Trillium catesbaei (Catesby's Trillium).
References:


Catesby Commemorative Trust

The Curious Mister Catesby video on Vimeo

Mark Catesby's The Natural History of Carolina, Florida and the Bahama Islands. Printed at the expence of the author, and sold by W. Innys and R. Manby, at the West End of St. Paul's, by Mr. Hauksbee, at the Royal Society House, and by the author, at Mr. Bacon's in Hoxton, 1729-1747.

Catesby, Mark: Hortus Europæ Americanus, or, A collection of 85 curious trees and shrubs: the produce of North America, adapted to the climates and soils of Great-Britain, Ireland, and most parts of Europe, 1763.


Maples

by Lucy Prim

**Acer rubrum**—Red Maple

In the late winter and early spring, when the woods are still looking very wintry, the Red Maples bloom. The flowers are so small, at a distance they blur together looking like a red haze floating about the branches. I used to think the red haze came from the newly emerging leaves. But with a close look, the red haze is obviously not newly emerging leaves, but a dense cluster of tiny red flowers! If you look closely you can see the flowers are either male or female. Stamens sticking out all around means it is a male cluster and y-shaped stigmas sticking out mean it is a female cluster. Usually all the flowers in a cluster are either male or female, in some cases appearing on one tree together and in other cases on separate trees.

After wind pollinates the flowers, the exquisitely colored fruit, samaroid schizocarps, appear, dangling gracefully from slender stems, eventually breaking free in the breeze and spinning and tumbling to the ground in the most delightful,
spiraling descent.

The Red Maple, *Acer rubrum*, is one of our most common trees, not only here in our mountains, but across all of eastern North America. Because of fire suppression, which started in the 1920s, Maples have become much more common than they had been before. They can tolerate a greater variety of conditions than any other tree, according to Jennifer Frick-Ruppert in her book “Mountain Nature!”, thriving in wet areas with the roots completely submerged in water and also on high elevation mountain sides.

There is another variety of Red Maple, *Acer rubrum* var. *trilobum*, most commonly found on the Coastal Plain but sometimes found here in our area. As to be expected, this variety has three lobes or even no lobes at all. It also has smaller leaves with a rounded or cuneate base, while *Acer rubrum* leaves usually are cordate at the base.

*Acer pensylvanicum*—Striped Maple

We often see *Acer pensylvanicum*, Striped Maple, on our walks. Its green-striped trunk makes it easy to identify. Associating the word “pensylvanicum” with pencils and stripes will make it easy to remember its botanical name.

The yellowish green bell shaped flowers are perfect, both male and female, and hang from their branches in graceful arching racemes.

The finely toothed leaves are the largest of all the maples in eastern North America, though the tree itself is one of the smallest maples.

*Acer saccharum*—Sugar Maple

Sugar Maple, *Acer saccharum*, is another maple we see here, though not as commonly. Look for the rounded leaf sinuses, as Alan Graham has so often pointed out to us, and that will tell us it is Sugar Maple. I remember this by thinking how the sinuses are curved like a sugar bowl. Red squirrels chew the bark of branches to create wounds, and they come back later to lap up the sugary sap.
Mountain Maple—*Acer spicatum*

Mountain Maple thrives in cold northern areas, growing as far north as Newfoundland. We are close to its southernmost range, the mountains of north Georgia, and we only see it when we go to higher elevations, up by the Parkway.

The leaf of *Acer spicatum* has very big, coarse teeth, a feature that can help distinguish it from Striped Maple whose teeth are quite tiny.

The panicle of pale yellow green, wispy flowers, arch up and out from their branches. (When Susan Sunflower sees this erect panicle, she says to herself, “Mountain up!” and that reminds her it is Mountain Maple!) The flowers contain both male and female structures, but one or the other is dominant, and the other non-functional. The pistillate flowers and staminate flowers occur on the same plant and they appear after the leaves are out. First the male flowers come out, then the female flowers, then more male flowers.

Insects, not the wind, pollinate Mountain Maples. But most reproduction is done vegetatively. New trees sprout from underground stems, and branches bending low to the ground sprout roots. Crowded colonies of Mountain Maples come into being like this, and we can find them in the woods as an understory shrub growing in deep shade or as the canopy tree on a sunny mountain top.

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**How should we pronounce the word “Acer”?**

According to “Stearn’s Dictionary of Plant Names for Gardeners,” if we follow the Reformed Academic pronunciation, we would pronounce the “A” as in father, and the “C” as in cat. If we follow Traditional English we would pronounce the “A” as in fate, and the “C” as in center.

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**Mesophication and Maple Trees**

I first heard about “Mesophication” this winter, from our indoor speaker Peter Bates. It is a new word, coined in 2008 by Nowacki and Abrams in their article “The Demise of Fire and ‘Mesophication’ of Forests in the Eastern United States.”
For 4,000 years, Indians and then Europeans have been starting fires in this area. Indians practiced yearly burning to clear areas for their crops and to encourage grasses that fed their game animals. These frequent fires led to the growth of sun-loving, fire-tolerant, and adaptive species such as Oaks, Grasses, and Pines. When fire suppression measures were adopted in the 1920s, a series of events began to take place. Maples and other fire-sensitive trees began growing in greater abundance. As they grew unchecked, their leafy branches spread out and shaded the forest floor, keeping it from drying out in the hot sun. Maple leaves, moister than Oak leaves, accumulated on the forest floor creating even more moist conditions. The shady, moist, nutrient rich soil beneath Maples creates the right conditions for the fewer in number shade loving, fire-sensitive plants but not for our great many sun loving, fire-tolerant plants. And this means we have a loss of species diversity. “Mesophication”—what an interesting concatenation of circumstances this is.

On Weeding

by Larason Lambert

Weeding undesirable plants from amongst our botanical treasures is a laborious task. I spend a lot of time pulling weeds at Fernhaven, and the following summarizes what I’ve learned over the years. Much of it is just common sense which many of you will already know, but I figured it was worth putting this experience down on paper for informational purposes, so here goes.

Most successful weed species tend to break off when pulled if not gripped at the base. I have found it beneficial to keep a trowel handy. You will quickly learn which species are likely to require a trowel for removal, and not even try to remove them without the trowel. As the soil becomes drier, the use of a trowel becomes even more necessary. Plants with taproots seem to be particularly prone to breaking off, and the taproots of some species can be quite deep. Such plants will just send up new sprouts if the roots are not dug up. In digging these taprooted weeds, I insert a trowel into the ground parallel to the taproot on one or more sides of the taproot to cut off side roots before working the taproot loose with the trowel.

Other weeds such as Cowbane, Wild Yam, and Prenanthes have small tubers attached to the roots, which if they are not dug up, will send up new sprouts. Cowbane is particularly difficult to remove—even though the tubers are very shallow. The plant breaks off very easily and should not be pulled even gently. It’s helpful to learn the rooting characteristics of the weeds you’re pulling.

When ground coverage by desirable species is dense, some weed species still poke their heads through, and it can be difficult to locate the bases of the weeds and pull them. I have found that a good approach is to exert a slight tension on the weed with one hand and reach down in with the other to find the base of the weed. A similar approach may be necessary when pulling weeds coming up through a thick cover of leaves, especially on a slope, where the base of the weed may often be six inches uphill.

With a dense cover of desirable plants, you might inadvertently pull some desirable plants when trying to pull weeds from amongst them. Such collateral damage is almost inevitable in some cases, but just try to minimize it. Hog Peanut is a particularly problematic weed in this respect because it’s very fine vines twist
around other plants as it grows up through them, making damage unavoidable. It may not be feasible to pull all undesirable plants if they are small and way down amongst the desirable plants. You should do the best you can, keeping in mind that whatever weeds you do not eliminate will grow and need pulling later.

Pulling weeds from thin soil on rock surfaces must be done with care so as not to disturb nearby desirable plants. You should hold the root mass in the thin soil down with one hand while pulling the weeds with the other. This situation also applies to roots coming up through moss layers on rock surfaces.

On Bonnie Arbuckle's advice, I consider weeding activity as "selective weeding," wherein desirable plants are left and encouraged to occupy the ground surface more fully. Likewise, native groundcovers that you have planted will spread and be disseminated to other areas. This cultivation of desirable native groundcovers will gradually discourage further weed growth, as will conscientious, timely weeding to prevent seed dissemination by annuals.

There are some professional gardeners who argue that you should not pull weeds from amongst your desirable plants because it will disturb your desirable plants’ root systems. They advocate just cutting out the weed and letting the desirable plants then out-compete the weeds, likely a rather debatable approach.

Some of the plants I consider to be weeds may be adored by other folks, and there are other somewhat attractive plants at Fernhaven which I consider as weeds in some locations. They just don’t aesthetically go well with ferns in some cases, and appearance is an important aspect of gardening: One man’s weed is another man’s wonder. Or, alternatively: a weed is just a plant out of place.

Working for Mother Nature at Fernhaven

by Larason Lambert

I work with Mother Nature, or perhaps I work for her.
It seems she’s always working, and no breaks do e’er occur.

She’s always finding tasks for me; my work seems never done.
But as I go about these tasks, I often call it fun.

What better purpose can one have, than tending to the land.
Without good land, all hope is lost. This is where we must stand.
We have another name change! Two of our earliest and loveliest wildflowers, *Hepatica americana* and *H. acutiloba*, have been moved to the genus *Anenome* and are now called *Anenome americana* and *A. acutiloba*. Alan Weakley says that in our area these two are entirely distinct species and do not seem to hybridize.

Hepatica’s three lobed, purplish-brown leaves reminded many people around the world (Asians, Greeks, American Indians, and Europeans,) of the liver, leading them to believe that Hepatica had the ability to restore a diseased liver. Jack Sanders, in his book, “The Secrets of Wildflowers,” relates how two tons of Hepatica leaves were imported from Europe in 1883, dried, and made into a liver tonic!

I found a little clump of Hepatica blooming in my woods in the beginning of February. I dug them up and brought them inside and have been watching and sketching them for a few weeks. I watched the flowers uncurling from the base, rising up on slender stems that grew taller and taller, the soft lavender petal-like sepals opening wide and beckoning. But what little insects will come calling? Because the flowers open so early in the year, there are not many pollinators flying about, and to make sure seeds are produced, some of the flowers have the ability to self fertilize. After a few days, the petal-like sepals wilt and wither and the long hairy stems arch and droop over until they touch the ground, making it easy for an ant to get to the seeds. As soon as the flowers are all wilted, very fuzzy new leaves began unfolding from the base. Hepatica leaves remain all year long, facing up toward the sky, catching whatever light they can from between the branches and leaves overhead.
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Please send me Botanical Articles or stories or tips on plant identification that you think would be good to include in one of our SHORTIAs. If you see anything that needs correction or if you have additional information about a subject or perhaps a personal experience related to a subject, send that in too, and I can include it in a future SHORTIA. Please try to get this to me by the last week of May to get it into the Summer issue.