



The Roots of Tennessee Flora

— Mary Ruden

Many know that tulip poplar is the state tree of Tennessee, but did you know that much of Tennessee's flora is rooted in American history? At the origin of these plants is Andre Michaux (1746-1802), a French plant explorer who came to America and was responsible for approximately 742 botanical discoveries. Among them are some of the most beautiful wildflowers, shrubs, and trees, such as magnolia, rhododendron, azaleas, mountain laurel, a trillium, tulip poplar, and other Tennessee plants. He began as King Louis XVI's royal botanist, to search American forests for a new species of trees to rebuild the forests of France and to use for shipbuilding for the French navy. Meanwhile, the French Revolution had exploded and Michaux's benefactor King Louis XVI was assassinated along with his wife Marie Antoinette during the dissolution of the monarchy in 1793. Without his benefactor, he was desperately in need of a new opportunity to pay for further botanical exploration in America. However, being well-placed and having met influential people such as Thomas Jefferson, he was able to secure an arrangement with the American Philosophical Society, the nation's foremost scientific organization.

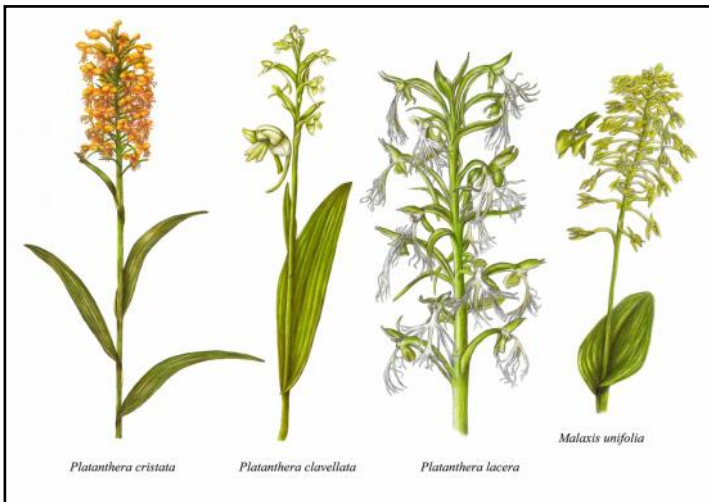
Michaux visited George Washington at Mount Vernon, in 1786 and Washington invited him to keep some of his plants there. They planted tulip poplar trees discovered by Michaux; one still stands there and is over 140 feet high. Tulip poplar, the state tree of Tennessee, is plentiful here.

In Roan Mountain a rarity grows; it is a small yellow flower that Michaux discovered called spreading avens, (*Geum radiatum*). It is found in high-elevation acidic soils. Another discovery there is Catawba rosebay (*Rhododendron catawbiense* Michx.). Its pink flowers are an annual highlight for Roan Mountain State Park and attract many visitors during their Rhododendron Festival during the third weekend in June. Flame azalea, (*Rhododendron calendulacea* Michx.) is golden orange and is one of the most spectacular flowers in Tennessee. Another Michaux discovery is called Roan Mountain sedge (*Carex roanensis*), found in high elevation along beech or oak forests. Michaux's saxifrage (*Saxifrage michauxii*) is a mountain saxifrage endemic to the Appalachian Mountains and adapts to a wide variety of cliffs and rock faces in the mountains as well as adapting to bog areas. Small star-like white flowers have yellow dots and orange anthers.



Flame azalea on Roan Mountain

Michaux found four species of orchids that grow in bogs or moist areas in Tennessee; one of the showiest ones is orange crested fringed orchid (*Platanthera cristata*). Its apricot color is yellow-orange and it is



Michaux Orchids — Illustration by Mary Ruden

sometimes called yellow fringed orchid. Other orchids are green fringed bog orchid, green adder's-mouth, and little club spur bog orchid. They are seen in moist areas and bogs.

In 1796 he discovered the yellowwood tree, on the historic Avery Trace in Tennessee, near Fort Blount on the Cumberland. Today that is Jackson County. Andrew Jackson's wife died in the year of his election, 1829, however, he took a sapling from his plantation in Nashville and planted it at the White House in her honor. It has pale flowers in delicate bunches that hang from a tree that was used to make gunstocks in Colonial times and to make yellow dye. It has been named the Bicentennial Tree of Tennessee and a gavel made from it was used to open the ceremony of a session of the Tennessee legislature in 1996. A

marker that bears Michaux's name and a stately yellowwood tree stand proudly in front of the Gainesboro, Tennessee courthouse.

Tipton-Haynes State Historic Site in Johnson City has an Andre Michaux Trail that includes plants that he recorded in his journal to have seen during his visit there in the 1790s. A permanent exhibit in his honor is in their museum which is educational and attractive. Brochures with the plant names and a map of where to see them are available at the site. The plants consist of spring bloomers such as trout lily, mayapple, violets, Jack-in-the-pulpit, spring beauty, bloodroot, and more. More Michaux discoveries may be seen in many parts of the state, including dwarf larkspur (*Delphinium tricornem* Michx.), the beautiful bluish-purple clusters of flowers atop a long stem with deeply cut leaves. Dwarf trillium (*Trillium pusillum* Michx.) has white petals that turn pink and is found in Roan Mountain, Great Smoky Mountains National Park's Middle Prong Trail, and Frozen Head State Park, among other places.

Many plants bear his name with the suffix "Michx". He authored two books, "The History of North American Oaks" and "Flora Boreali Americana", in Latin. Tennessee has several species of oaks that Michaux discovered; swamp chestnut oak (*Quercus michauxii*) grows in bottomlands and streams and is an important timber tree to the south. It is also called basket oak as baskets are made from it, or cow oak as cows eat the acorns.

Perhaps Michaux is not as widely known as other botanists due to the fact that he did not lecture or teach at a university. There are no known portraits of him, but there are several of his son. He died of a fever in 1802 on the island of Madagascar, where he was exploring, after being in Australia collecting plants.



Mary Ruden has authored and illustrated two folding field guides on Native Orchids of North America for Waterford Press "A Pocket Naturalist" series. She has produced educational posters on native orchids and was featured in the September 2024 issue of "Orchids" magazine. Mary will present *Andre Michaux Plants of Tennessee Forests* at our spring rally on Friday, April 25th, at 7:30 p.m. at the Roan Mountain State Park conference center.

Dragonflies and Damselflies of Roan Mountain *and Upper East Tennessee*

— Richard Connors

One hundred and sixty-seven species of dragonflies and damselflies, all members of the scientific order known as Odonata, have been documented in the state of Tennessee. The variety of ecoregions and habitats across the state makes for this variety. The mountain region is unique in the state with elevations reaching the Canadian life zone, and this results in some species being found here that are found nowhere else in Tennessee. For the past 20 years, Richard Connors has surveyed and studied the dragonflies and damselflies of Upper East Tennessee, as well as surveying other areas of the state.

Richard is a Nashville-based photographer and naturalist. He received his MFA degree in photography from East Tennessee State University in 1980. He has taught photography and worked intensely as a commercial photographer, but nature photography has always been his prime focus. An avid birder and bird photographer, he has been active with the Tennessee Ornithological Society serving one term as president. In recent years dragonflies and damselflies have been his favorite subjects, especially during the summer months.

For several years Richard worked as a biologist with Tennessee State Parks, traveling the state conducting surveys for their All Taxa Biodiversity Inventory (ATBI) program, using photography to document species' occurrence in TN State Parks and Natural Areas. Richard's work with TN State Parks' ATBI, along with his fondness for and connection to Upper East TN has led him to a special interest in studying the dragonflies and damselflies of the region. Over the years this study has produced several new state records. Three state records found in Carter County so far are: Ski-tipped Emerald (*Somatochlora elongata*), Hagen's Bluet (*Enallagma hageni*) and American Emerald (*Cordulia shurtleffii*). And two of those, Hagen's Bluet and American Emerald, were first documented in Roan Mountain State Park.



L to R: Ski-tipped Emerald, Hagen's Bluet, American Emerald (Photos by Richard Connors)

In addition to their photographic appeal with vivid coloration and helicopter-style flight behavior, dragonflies are an interesting group of insects to study from a natural history point of view. Fossil records going back millions of years to the age of the dinosaurs document dragonflies similar to some still flying today, although none reach the two-foot wingspan of those largest ancient insects. Dragonflies are useful predators of smaller insects like mosquitoes, especially in the larval or aquatic stage; they in turn provide food for birds, fish and other wildlife. Some birds of prey like kites

specialize in feeding on dragonflies during their migration journey south. Humans benefit from dragonflies' role as an indicator species of quality waters, with some rare ones only occurring in the most pristine streams or environments.

For the mountain region questions to consider might be: Will species found at higher elevations remain and adapt to the warming climate? Or will some disappear over time?

As a co-leader of Dragonfly Day with Marty Silver at Warriors Path State Park over the years, and in collaboration with local naturalists like Don Holt, Richard has been sharing his photographs in workshops with others who are fascinated by the "Odes," as enthusiasts describe those flying wonders in the order Odonata.

About the varied and interesting habitats and locales of the region Richard says:

"I've never been to Pogi, but I've been to Frog Level, Flag Pond, and Fineas Fen; to Chestoa Beach and Jackson Island, and spent many happy hours chasing Odes on Nature Conservancy properties in Shady Valley."

Richard's slide presentation at the upcoming Roan Mt. Naturalist Rally will detail those discoveries and offer tips on chasing Odes in Upper East Tennessee.

Richard Connors will present Dragonflies and Damselflies of Roan Mountain and Upper East Tennessee on Saturday, April 6th, at 7:30 p.m. at the park conference center.

Friends of Roan Mountain gratefully acknowledges these charitable gifts

DONATIONS

PAYPAL GIVING FUND - HONORING NORMA MORRISON'S BIRTHDAY

SUSAN PETERS



In the wake of the storm and flooding from Hurricane Helene, Roan Mountain State Park Director, Monica Johnson, reached out to the public requesting assistance for park employees who sustained damage to their homes. Monica stated, "we all know that insurance doesn't cover everything, and sometimes it doesn't cover anything at all."

The Board of Friends of Roan Mountain approved a donation of \$2,500 for hurricane relief assistance to be divided evenly between the five park employees whose personal homes were damaged by the flooding. We also reached out to our membership whose generous donations totaled \$2, 565.39. Five park employees whose home were damaged by the hurricane received \$1,013.08 each.

SAHC PURCHASES ROUND MOUNTAIN TRACT



In February 2025, Southern Appalachian Highlands Conservancy (SAHC) purchased 92 acres atop Round Mountain in Mitchell County, just south of Carver's Gap. The rounded, forested crest of this aptly-named mountain rises above the approach to Carver's Gap, just off NC 261. Stretching above the Roan valley at 4,900 ft. elevation, Round Mountain looms prominently in the viewshed from the scenic drive and from the Appalachian Trail between Round Bald and Jane Bald. SAHC purchased two adjoining tracts which together include the peak and surrounding slopes of Round Mountain.

"Round Mountain is only about 1.5 miles from Round Bald, Jane Bald, and Grassy Ridge Bald and features prominently in the viewshed from them," says Joe DeLoach, former SAHC Trustee and avid Appalachian Trail volunteer with the Tennessee Eastman Hiking and Canoeing Club. "Development of it could have resulted in a permanent scar on the Appalachian Trail experience in one of its finest locations. It was a thrill to see that SAHC purchased this important, high elevation mountain."

The tract is also important for wildlife habitat and water resources. It is located within the Audubon Society's Roan Mountain Important Bird Area and the Grandfather Unaka Priority Amphibian and Reptile Conservation Area. A small section of a tributary to Fall Creek flows through the northeast corner of the property, and a tributary to Little Rock Creek originates near the southern property boundary. Both Fall Creek and Little Rock Creek have been designated as High Quality Waters and Trout waters by the NC Dept. of Environmental Quality - Division of Water Resources.

"SAHC's purchase of the property will contribute to a protected corridor between SAHC's Little Rock Creek preserve and the large network of conserved land on the Roan Massif, including SAHC's Haw Orchard Ridge preserve," says SAHC Land Protection Director Michelle Pugliese. "It is not often that we have the opportunity to protect an entire high-elevation mountain, including the summit and its surrounding slopes. We know that species move to high elevations to escape the impacts of a changing climate. The Round Mountain purchase will forever protect this important plant and animal refuge."

SAHC plans to own and manage the land as a wildlife preserve.

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Roan Mountain Day Use Area Update



The day use area around the Cloudland hotel site and Rhododendron Gardens is currently closed to visitors due to construction, however it is expected to open on time for the 2025 season, which is from Memorial Day weekend through the end of September.



Effective 4/1/2025, the restrictions for all open burning in the area of Roan Mountain remains in effect due to heightened fire danger caused by Hurricane Helene. This restriction includes all campfires, portable stoves, and all other forms of outdoor burning, is in effect on all National Forest System land from Hughes Gap to Doll Flats on the Appalachian Trail with the exception for persons using a device solely for cooking devices fueled solely by LPG (liquid petroleum) fuel. Such devices can only be used in an area that is barren or cleared of all overhead and surrounding flammable materials within three feet of the device.

For the latest information on closures in this area, please contact the Appalachian Ranger District at (828) 689-9694 or appalachianrd@usda.gov.



Xtreme Roan Adventures 2025, July 25-26!

A great place for kids to explore nature from microscopic to mountain size. The whole family will enjoy Free Friday Night Adventures, followed by a Saturday full of Adventures to choose from.

Nature leaders from many specialties will lead families on more than twenty Adventures and Activities. Learn and study nature on the ground, in the water, and in the air.

Explore nature from deep in the Doe River to the alpine-like mountain top.



To keep up with the schedule, go to [Xtreme Roan Adventures.org](http://XtremeRoanAdventures.org)
Or contact: Ken Turner,
ken@XtremeRoanAdventures.org
423-538-3419 or 423-366-9326

Participants at our Winter Naturalists Rally in February were treated to excellent presentations by Tristan Clark on herpetology and Gerry Middleton on his wildlife survey at Roan Mountain. An additional tasty treat was provided by Anne Whittemore, who was unable to attend but sent homemade pawpaw bread. It was such a hit that we received requests for the recipe!



PAWPAW QUICK BREAD

INGREDIENTS

- butter or spray oil for greasing
- 2½ cups flour
- 2 teaspoons baking soda
- ¼ teaspoon table salt
- 2 scant cups sugar
- 1 cup butter, softened
- 4 eggs
- ½ teaspoon vanilla
- 3 cups pawpaw pulp*

*An equal amount of mashed ripe bananas can be used in place of pawpaws

INSTRUCTIONS

Preheat the oven to 350°F. Grease a bundt pan or 2 standard-sized loaf pans (8 x 11) or 5 mini loaf pans. Set aside. Whisk together flour, baking soda and salt. Set aside. Cream sugar and butter until light and fluffy. Add eggs one at a time, beating well after each addition. Add the vanilla. Add the pawpaw pulp, and beat to combine. Add the dry ingredients and mix only until the flour is incorporated — don't overmix. Pour batter into prepared pans and place in the oven. (If using mini pans, place them on a sheet pan first.) Bake for 40 to 45 minutes for mini pans or 45 to 60 minutes for the bundt and larger loaf pans. Cake should be brown and should start to leave the sides of the pan. Let cool on rack for 15 minutes before removing from the pan. Prep Time: 15 min Cook Time: 45 min



Friends of Roan Mountain
 708 Allen Avenue
 Elizabethton, TN 37643
friendsofroan@gmail.com

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Friendly Reminders



MEAL Orders – Payment for Spring Rally meals must be received by Tuesday, April 22nd . The reservation form can be found in the brochure or on our website. Mail your check and reservation form to Nancy Barrigar, 708 Allen Avenue, Elizabethton, TN 37643.

You can now register online. Find the [link](#) and rally brochure on our website's homepage.



Door Prizes -- We gladly accept items donated for door prizes. These will be given away on Friday and Saturday prior to the evening programs. Ideas: nature-related books, photos or art, outdoor gear, plants, homemade goodies . . .

If you prefer to read your FoRM newsletters online (color version) email friendsofroan@gmail.com with your request.



MARK YOUR CALENDAR

Spring Rally	Last Friday - Sunday in April	April 25 - 27, 2025
Youth - XRA	Last Friday & Saturday in July	July 25 - 26, 2025
Fall Rally	Friday - Sunday in September nearest 1st day	Sept 19 - 21, 2025
Winter Rally	Saturday in February near Valentine's Day	February 21, 2026