FRIENDS OF ROAN MTN

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Mushrooming on Roan Mountain over the years

— Gabrielle Zeiger

Because of its change in elevation and weather, Roan Mountain has an incredible amount of biodiversity from its base to its summit. The vast majority of terrestrial plants have a fungal relationship, and the diversity of plants on Roan Mountain ensures that there is a wide range of fungal associates. Although lower than Mt. Mitchell (6684 feet) , the top of Roan Mountain (6,285) has plants and fungi that are unusual in a southern climate.

Mycena leaiana aka Orange Mycena

After more than 20 years of collecting and recording fungi in the state park and at the top of Roan Mountain, the cumulative species list has topped 470 species of macrofungi, with no end in sight. Another foray site, near Mt. Mitchell has yielded over 1000 species over a 20 year period. Although the Mount Mitchell foray is a multi-day scientific blitz involving over 40 participants and covering a wider area, there are similarities between the two forays.

Both forays cover a wide change in elevation, and most of the fungi that are found at lower elevations are not found at the highest points, and vice versa.

The Roan Mountain foray has the advantage of being held on the same weekend every year. Species that produce mushrooms regularly should be fruiting at the same time. Interestingly, only about 10-15 species of the 470+ recorded have shown up more than 10 times in 20 years. The same percentage is true for the Mt. Mitchell foray.

It seems that the rate of species new to our list stays at 10-15 % of what is collected every year, at both sites. The mechanism for what stimulates a fungus to send out fruiting bodies (mushrooms) is not fully understood, and there are mushrooms that have not been seen for 15-20 years, although plenty of other mushrooms are fruiting at the same time and place that the missing mushrooms were last seen. There are quite a few of the species in our list that were only seen one time. This is also true of the Mt. Mitchell site.

Some of the new species are found at both locations in the same year. By checking the Mushroom Observer website, we see whether that same fungus is being found in other parts of the United States, as well. That information is valuable for learning about the life cycles of various fungi.

Mycology is one of the branches of scientific study where citizen science plays an important contribution in adding to the amount of information collected. Join us in contributing to that knowledge base, and learning about the fungi at Roan Mountain, as Roan Mountain will continue to amaze and teach us for years to come.

Gabrielle Zeiger, a long-time member of Friends of Roan Mountain and rally field trip leader, has been studying mushrooms for 23 years in this area. She is a member of the North American Mycological Association, attending national forays and participating in the annual Wildacres foray in the Blue Ridge Mountains near Mt. Mitchell. She will present *Zen and the Art of Mushroom Hunting* on Friday, Sept.7, at 7:30 at the Roan Mountain Conference Center.

Digitizing Tennessee's One-Million Herbarium Specimens is Underway But Will Require a Massive Volunteer Effort in the Volunteer State

Joey Shaw and Ashley Morris
University of Tennessee at Chattanooga and Middle Tennessee State University

A basic tenant of science is that data and conclusions are verifiable and reproducible. This statement is just as true in field botany, conservation, and land management as it is in experimental lab sciences. Key to the verifiability and reproducibility of botanical science or conservation decisions are pressed, dried, and archived specimens of plants, which are called "herbarium specimens" (Figure 1). Whenever scientists, conservationists, or land managers make claims about locating, protecting, or observing rare plant species or, for example, when biochemical researchers make claims of new potential medicines being discovered in a certain species of plant, these claims do not transition from hearsay to scientific fact without a vouchered herbarium specimen substantiating that claim or observation. In some cases, for example when dealing with extremely rare species, photographs might be mounted on the herbarium sheet and archived instead of actual plant material; however, actual plant material is always better when it can be afforded from an individual or population (see below).

Fig. 1. Herbarium specimen of *Lilium grayi*, a rare species of high elevation balds and a species of conservation concern in Tennessee, North Carolina, and Virginia, which is why the exact locality is whited out.

Most herbarium specimens, in addition to containing a preserved plant specimen, also contain information about that specimen on a printed label included on the sheet (Figure 2). Typical label data include the scientific name (often determined by an expert), location from where the specimen was collected (including country, state, county, specific locality description, and for newer specimens, GPS coordinates), collector and collection number of that collector, date the specimen was collected, and the herbarium in which the specimen is held. At the most basic level, these specimens help us to understand plant species distributions, be they of common, rare, or non-native species. Currently, label data, once they are digitized and assembled into a database, are already being mined for studies attempting to model species distributions under various scenarios of climate change. Aside from the value of locality data, the physical specimens are important sources of other information, including morphological and phenological variation over time and space. Beyond the observable characteristics, specimens can also be a source of genetic information through DNA extraction, or a source of environmental contaminant information through heavy metal and biochemical analyses. As technology continues to advance, the potential value of herbarium specimens continues to increase, as they represent data points in time and space that can never be replicated.

HERBARIUM OF THE UNIVERSITY OF TENNESSEE (TENN)
Plants of Tennessee
Polk County
Clematis vinacea sp. nov.

Ocoee River, shale banks along Hwy 64/40, just west of Caney Creek around bend on N-side of road on moist phyllite talus slopes that tend towards subxeric during summer, anthesis early spring and continuing through summer when moisture is available.
Stems erect from clumps or single stems, plants rhizomatous. Sepals variously purplish to wine-red or pinkish. Plant sericeous pubescent.
Aaron Floden 1942, 3/27/2012

Fig. 2. Herbarium specimen label showing (top to bottom) the herbarium in which the specimen resides, the state and county in which it was collected, scientific name, locality string, collector, collection number, and date.

Fig. 3. Herbarium specimen of Ulisse Aldrovandi. It was likely collected from Italy in the mid to late 1500s. Image from: herbarium-world.wordpress.com

Herbarium specimens are stored in a "herbarium," a term in use since the 1500's, and specimens from some of the earliest botanists, like Ulisse Aldrovandi (1522-1605) are still preserved today (Figure 3). Often, herbarium collections have the specimens stored in metal cabinets sealed for protection from damaging insects and humidity. Much like books in a library, specimens are organized by a filing system (of which there are several), with specimens of similar species aggregated into folders and folders placed onto shelves in the cabinets.

Today, worldwide, there are over 3000 active herbaria containing over 387 million specimens. In Tennessee, there are 13 herbaria housing nearly one million specimens, with most collections being located at universities (Figure 4). The one exception to this is the

collection at the Great Smoky Mountains National Park.

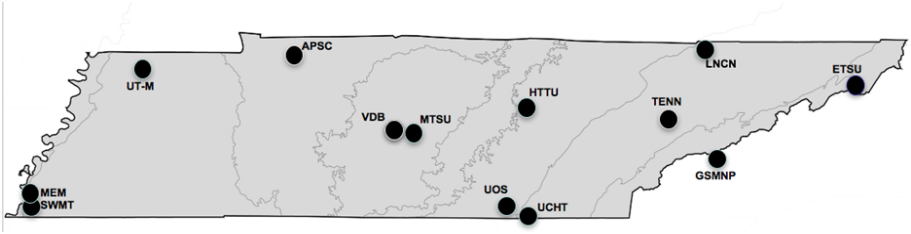

Fig. 4. Tennessee's herbaria. SWMT = Rhodes College, MEM = Memphis University, UTM = University of Tennessee at Martin, APSC =Austin Peay State University, VDB = Vanderbilt University*, MTSU = Middle Tennessee State University, UOS = University of the South, UCHT = University of Tennessee at Chattanooga, HTTU = Tennessee Technological University, TENN = University of Tennessee, Knoxville, LNCN = Lincoln Memorial University, GSMNP = Great Smoky Mountains National Park, and ETSU = East Tennessee State University.

*the VDB herbarium was closed in 1998 and the specimens were relocated to the Botaical Research Institute of Texas, in Ft. Worth, TX. Still, they are part of the digitization effort explained in the body of this text and as such are being reconnected to Tennessee's botanists, digitally.

Our Tennessee collections contain a representation of over 15,800 species from all 50 states as well as most North American countries and much of the Old World, too. They have historic importance as well. Some of the most prolific plant collectors in US history have focused on TN, including Robert Kral (Vanderbilt University), who collected over 99,000 unique specimens in his lifetime, and R. Dale Thomas, who is the current record holder with over 173,000 unique specimens in his lifetime. Specimens from a number of important 19th century collectors exist within Tennessee herbaria, including important collections by Samuel B. Buckley (1809-1884), Ferdinand Rugel (1806-1879), Frank Lamson Scribner (1851-1938), Augustin Gattinger (1825-1903), and Albert Ruth (1844-1932).

These historic records can shed light on otherwise questionable finds. For example, in 2006, a photographer in Chattanooga contacted Joey Shaw at UTC requesting help with the identification of a plant he had photographed from a limestone outcrop north of Chattanooga, Tennessee. Surprisingly, the plant species in the photograph was a Midwestern species, Fremont's leatherflower (*Clematis fremontii*), and was previously unknown from Tennessee. Because the species was found near an old, rock home foundation, Shaw initially raised the possibility that the population was cultivated. However, a review of specimens in the UTC herbarium revealed a previous record of Fremont's leatherflower collected in Chattanooga in the 1920s that was misidentified at the time of collection as a close relative. This older specimen suggests that the species is native to Tennessee because it documents a second, separate population of this species that likely predates the home foundation. Put another way, the newly discovered population north of Chattanooga would not have been considered "Chattanooga" in the 1920s and so the older herbarium specimen suggests this rare species had a wider range in the Chattanooga area and was present at least back to the 1920s. Without vouchered herbarium specimens, this determination would not have been possible.

Herbarium collections are not just for researchers. They have become important tools for educators, land managers, and policy makers. However, collections continue to be underutilized due to limited accessibility, seemingly hidden away in cabinets in locked rooms around the world. In other words, the incredible wealth of botanical and ecological information inherent in these collections has been largely inaccessible to most of the population, with many members of the public not even being aware that they exist. As a result, there is an international push for digitization of all biological collections to make data available to anyone with internet access.

In spring 2014, Joey Shaw (University of Tennessee at Chattanooga), Ashley Morris (Middle Tennessee State University), and Dwayne Estes (Austin Peay State University) received funding from the National Science Foundation (NSF) to begin digitizing Tennessee's nearly one million specimens. Specifically, funding was provided to hire large teams of herbarium students to take high-quality images of every specimen and to database label data from the sheets (specifically scientific name, and state and county of collection, or "skeletal data"). Tennessee's efforts are part of a larger network known as SERNEC, or the SouthEast Regional Network of Expertise and Collections. Digitized specimens from this network spanning 13 states and more than 230 herbaria are now freely searchable on the SERNEC portal (sernecportal.org). Rare species data are masked to protect threatened and endangered habitats; access to such records requires permission from the curator of the herbarium that holds them.

Although we are getting close to having basic data publically available for all of Tennessee's specimens, there is still a lot of work to do. Recall that our funding from the NSF was to capture images and tie images to skeletal data. It will take the collective effort of many *volunteers* and citizen scientists to keystroke the data of other fields (e.g., the date that a specimen was collected, collector's name, locality description, and if the specimen was in a reproductive state at the time of collection). To do this work, we need volunteers like you! Please go to the citizen science platform called Notes From Nature (https://www.notesfromnature.org/). Select "Plants" and while you might decide to enter data from any of the projects, we implore you to select a Tennessee-based project. After a very short tutorial (two minutes, at most), you will be contributing to our goals to have a fully accessible, online collection of Tennessee herbaria. Do not feel as if you cannot do this or are unqualified! If you are reading this and can type (even using only your index fingers), then you are qualified! In short, we ask that you enter data into fields exactly as you see it written on the label – do not attempt to correct errors. Each record will be entered three times by three different people, and as long as two out of three entries for the same field agree, the data will be added to our growing database.

Fig. 5. Herbarium specimen of Fremont's leatherflower collected by Maj. George W. Grubbs on April 13, 1865, from Chattanooga.

We are already seeing the fruits of these efforts. Only a few months ago, the Chicago Academy of Sciences posted a digitized specimen of Fremont's leatherflower collected in Tennessee in 1865 (Figure 5). As it happens, Major George W. Grubbs of the 2nd US Col 1 Infantry collected the specimen from Chattanooga on April 13, 1865, only five days after General Robert E. Lee's surrender at Appomattox. It appears that Maj. Grubbs collected this specimen as he was packing up his belongings and carried it with him home to Indiana. We do not yet know how the specimen ended up at the Chicago Academy of Sciences, but through the digitization of specimens, we learn more about the history and diversity of the volunteer state each year. Won't *you* be part of this remarkable effort?

Dr. Joey Shaw is a professor in the Dept. of Biological and Environmental Sciences at the UT Chattanooga where he teaches Plant Taxonomy, Plant Morphology and Biogeography. He is author of *Guide to Vascular Plants of Tennessee* as well as numerous publications, and he serves as Chair of the Organizing Committee for the Spring Wildflower Pilgrimage, a 4-day event held annually in the Great Smoky Mountains National Park. Dr. Shaw has served in all ranks of the Association of Southeastern Biologists, including as president. He will be the Saturday evening presenter at our Fall Naturalists Rally.

Do You Wish You Could Do Something to Help with Scientific Research on Roan Mountain?

When you hear about Jamey Donaldson crawling all over the balds looking for the young Gray's Lily plants — don't you wish you were able to do that? Or what about the research Tyler Wicks is doing on salamanders on Roan Mountain — don't you wish you could help him turn over rocks?

Well, you can still help. These are two examples of research grants that the Friends of Roan Mountain have funded.

You can help make more money available for grants such as these. You can volunteer an afternoon to track trail usage in the Roan Mountain State Park. Yes! You can sit at a trail head and count the number of people using the trail. You can credit your volunteer hours to the Friends of Roan Mountain. In turn, the Park will give us consideration on rental fees for our naturalists' rallies.

We have agreed to provide 100 hours of volunteer service to the Park this year. There are plenty of trails and times to choose from. And there are other, more active, volunteer opportunities too. You could spend a few hours on light, trail maintenance. Or spend a cool morning removing invasive weeds from picnic areas. You could assist rangers with special events. You could help with parking at the Perseid meteor shower on August 11. You could staff one of the activity stations for the National Public Lands Day, Sept 22.

Contact Ranger Jessee Sexton at the Roan Mountain State Park (423) 772-0190 or send him an email: Jesse.Sexton@tn.gov. Or me: Ken Turner (423) 538-3419 Ken@FriendsofRoanMtn.org

Twin Springs Shelter Gets a Roof

Volunteers Are Needed!

Join other Friends of Roan Mountain volunteers and Cherokee National Forest personnel on October 4th and 5th to replace the roof on the shelter at the Twin Springs Recreation Area on Roan Mountain. Bring your tools and meet at Twin Springs at 8:30. Please contact Gary Barrigar at 423 292-1298, gbarrigar@friendsofroanmtn.org to confirm you can help.

A Mountain with No Dangerous Snakes

— Cade Campbell

A Northern Ringneck Snake, Diadophis punctatus edwardsii, a subspecies common farther north, but it only ranges into a small part of Tennessee and North Carolina in the Appalachian Mountains. A tiny snake, often under a foot in length, it is entirely harmless and can be handled with little risk of an even harmless bite. It can be distinguished from the nominate Southern subspecies by its solid yellow to sherbet orange belly; the nominate subspecies has black chevrons on the center of each belly scale.

Roan Mountain has long been treasured for its astounding beauty and unique forests and balds that yield an almost tropical array of birds, wildflowers, insects and endemic members of almost every classification. But among the animals we generally seek to see for their coloration, behavior or rarity, no animal causes as much of an unpleasant reaction as a certain suborder of reptiles — the snakes.

The mere name of these relatively harmless creatures sends shivers down many people's spines; even causing an uneasy feeling in many nature enthusiasts! Infrequently encountered and bizarre, snakes cause a reaction anywhere from fear to fascination. However, Roan Mountain is not a hotspot for snake diversity; the cold, damp and dark forests seem like snakes could "lurk" there, but snakes require a relatively warm, somewhat dry environment to thrive. But for the mountain's lack of diversity, the snakes that do occur here are extraordinarily hardy species; some of which are rare endemic jewels; just as environmentally special as Cerulean Warblers and orchids if not more so!

The first snake that I believe is a particularly special animal on Roan Mountain is the Eastern Garter Snake (*Thamnophis sirtalis sirtalis*). The Eastern Garter Snakes (the same species) in foothill and lowland areas are relatively uniform. They are black snakes with a green belly and three yellow stripes running down the length of their body. But Roan Mountain garter snakes are different. They are dark brown, with only two stripes and a darker back than their sides. This high-elevation color morph ranges north to West Virginia on a knife-thin sliver of range across the highest, coldest mountaintops least suitable for snakes. It has never been known to occur alongside ordinary, striped garter snakes; albeit the pattern is currently considered a form of melanism. However, there is a different number of ventral scales on the tail of these highland snakes, which may eventually lead to a new, Appalachian endemic subspecies of the Common Garter Snake. A similar phenomenon occurs along the coast, where the garter snakes are checkered and have a single dorsal stripe if any stripes at all. This dark, Appalachian color morph is likely more suited to high elevation forest due to its darker pattern; it serves as a much better camouflage as well as a source of warmth, as the darker scales absorb more heat.

A normal, striped garter snake basking in an East Tennessee foothill forest.

Thamnophis species are Natricine snakes, closely related to European and other North American snakes that prefer living in moist habitats near water. Feeding mainly on earthworms, minnows, amphibians, slugs and soft-bodied insects, garter snakes are often found hunting on land or in small, calm bodies of water. They are opisthoglyphous, or "rear-fanged"; which means they have a pair of large teeth in

A large, female and possible gravid dark morph garter snake on Roan Mountain. These snakes are often unofficially called "Appalachian Chocolate" Garter Snakes by reptile enthusiasts aware of this odd, endemic snake.

the back of their mouth that serve as fangs. Although they are even called nonvenomous and pose no threat to humans, they have a small amount of venom that makes their bite a bit more painful than similar-sized snakes. Since it cannot even harm dogs, cats and small animals, this venom is solely used to subdue prey. Mostly diurnal, garter snakes have an attitude and are often the most commonly encountered terrestrial snake on Roan Mountain. The dark morph occurs from the northern hardwood forest in the lower part of the park to the highest elevations of the balds; where the snakes have access to more sunlight albeit in a colder environment.

Another Natricine snake, the Northern Watersnake (Nerodia s. sipedon) follows the mountains down from New England, much like giant Whitelip snails and spruce-fir forests. Surviving the frigid water of the Doe River for short periods of time, these snakes hunt fish such as dace, chub and small trout. They also frequent ponds and vernal pools on the mountain, where adults feed on frogs and juveniles feed on tadpoles and salamanders.

Numerous surveys have been conducted, none of which have found any venomous snakes. Possibly due to a lack of the rock outcrop habitat preferred by native venomous snakes (rattlesnakes and copperheads), possibly due to local extirpation, or possibly due to a combination of factors, the absence of venomous snakes on Roan Mountain is not shared by some other local mountains of similar elevations. If you see a snake while hiking on Roan Mountain, it's almost assuredly harmless.

A pair of courting Northern Watersnakes on Roan Mountain. Despite the small size, the female was several feet long and massive compared to many other snakes on the mountain.

Watersnakes are often confused with copperheads, but there are no venomous snakes on Roan Mountain.

The Northern Copperhead, formerly Agkistrodon contortrix mokasen, is a rock face obligate species. Many snakes are often misidentified and even killed on Roan Mountain because they are thought to be this species. Common in the Southern Appalachians, copperheads are very secretive and are hardly ever seen by anyone not looking for them, and sometimes even those who are.

The Eastern Milksnake (Lampropeltis triangulum), as opposed to the garter snake, is anything but common. Despite having a name that makes this snake seem widespread throughout the Eastern United States, it is roughly confined to the Blue Ridge mountains. The formerly recognized, nominate subspecies (pictured below) was recognized along with the former Coastal Plain Milksnake, a presumed hybrid between milk and scarlet kingsnakes throughout much of New England. Now only another "color morph," Blotched Milksnakes (such as the juvenile pictured) rarely grow up to three feet and are more confined to high elevation areas such as Roan Mountain. They can be red, orange, brown (especially as adults) or even black (in colder areas). Feeding mainly on rodents, some populations specialize in eating other species of snakes, including venomous snakes. Immune to copperhead and rattlesnake venom, these snakes also target less dangerous species such as garter snakes. Occasionally, they will also eat salamanders. Also found from the state park all the way up

to the balds, these snakes were once thought to drink the milk of cattle, causing the livestock to "go dry," or stop producing milk. Now we know that they are actually beneficial around farms. Being entirely nonvenomous, small and very docile, milksnakes don't seem very formidable. However, they are constrictors; causing fatal circulatory system damage by squeezing mammal prey firmly and quickly. In fact, they can even eat snakes such as rat snakes that are longer than themselves by crushing the head of their prey and swallowing it until they themselves are kinked and hardly able to move.

A young Highland Blotched Milksnake, Lampropeltis t. triangulum

The snakes of Roan Mountain, as you can see, are very special and worth protecting. Numerous factors such as habitat destruction, Snake Fungal Disease (Ophidiomyces) and direct persecution by humans have led to an international decline in many snake species. It's up to us to leave snakes in their natural habitat, alive and well, so they can survive for years to come. If you see a snake on the mountain, don't hesitate to get a closer look! Get pictures, watch it and get to know it better. They are very fascinating animals, and I encourage you to look at the next one you see with appreciation and respect instead of fear; you might enjoy the encounter more than you would think!

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Cade Campbell is a Tennessee Volunteer Naturalist, a Boy Scout working toward Eagle Rank, an Exchange Place Junior Apprentice (or Living History Interpreter), a sophomore in high school and a rally field trip leader for Xtreme Roan Adventures.

GIFTS AND MEMORIALS

Friends of Roan Mountain gratefully acknowledges these charitable donations and gifts

Donations

Warren & Diane Edwards
Larry McDaniel & Janet Brown
Linda Pappas
Joe Ritger
Gabrielle Zeiger

Twin Springs Project

Lynn Brown
Chris Campbell
"Nora's Grandmom"

In Memory of Pat Hutto

Michael Beachler
Gayle Cox
Anne Jessup
Kay Liles
Jo Ann McFarlin
Joan Royal

What's New in the Park?

Junior Ranger Camp 2018

During the week of July 9-13, Roan Mountain State Park was honored to host our annual Junior Ranger Camp for 30 kids aged 8-12 years. During this adventure-packed week, Junior Rangers got to participate in various activities that involved Safety, History, Water, Wildlife, Plants, and Astronomy. As with any group, these 30 kids came together unsure of their new group of fellow day-campers, but quickly became fast friends as they worked together to build survival shelters, perform wilderness 1st aid, wade the Doe River, learn how to fish, and brave the Roan Mountain Adventure Challenge Course.

Sure! Zip-lining, hiking, wildlife viewing, and swimming may sound like a fun vacation, but these activities are also great for the body and mind of Tennessee's youth. Junior Ranger Camps such as this are held at the majority of Tennessee's 56 State Parks. These wonderful camps are a part of a Dept. of Health grant to fight back against youth obesity and future health complications. What did the doctor prescribe? 60 minutes of hard play in the great outdoors! In 2019, Roan Mountain State park will be accepting registration for Junior Ranger Camp on Saturday, May 4th. 30 kids aged 8-12 will play and learn in the outdoors while enjoying the benefits of regular exercise. The camp dates are set for the week of July 8-12.

From the Owl's Nest

Roan Mountain State Park proudly boasts one of Tennessee State Park's educational raptor centers. With this treasure comes great responsibility with the care and training of the animals who call this facility home. Over the past year, Roan Mountain has taken in a second Barred Owl named Shiloh and a Great Horned Owl named Sunshine. Park Ranger Philip Hylen and Roan Mountains Seasonal Interpretive Rangers, Shane McConnell and Tyler Wicks, have spent the summer months working each day to train the owls at Roan Mountain Raptor Center.

Education animals such as the owls at Roan Mountain have been rescued and brought into care from injuries, illegal removal from the wild, and the illegal trade of our nation's wildlife. Roan Mountain's owls may have had it rough in the wild, but they now serve as educational ambassadors to the public in exchange for daily care and shelter. The current raptor training regimens being conducted at Roan Mountain State Park will allow for these feathered friends to make appearances in the local community as a part of our State's environmental education. Keep your eyes open for future learning opportunities with these birds of prey! *[FoRM contributed to build the raptor center. —Ed.]*

ANNUAL MEETING

The annual meeting of the Friends of Roan Mountain will be held during the Fall Naturalists Rally on Saturday, September 9th, at 5:45 p.m. prior to the evening meal. At the meeting you will receive information regarding the activities, projects and finances of the organization. The election of board members will be held.

The following have been nominated for this year's election: Nancy Barrigar, Aubrie Abernethy, Jennifer Bauer, Larry McDaniel, Tracy Campbell, Will Miller and Bob Whittemore . Nominations from the floor may be made at the meeting.

Board meetings are scheduled as needed, generally a few weeks prior to the rallies. Any member of FORM is welcome to attend a board meeting or submit an item for the board's consideration by contacting the Friends of Roan Mountain president, Gary Barrigar, 423-543-7576, gbarrigar@friendsofroanmtn.org .

The annual meeting also provides an opportunity for the membership to give their input concerning the policies and activities of FORM. Any member wishing to submit an item for the agenda of the annual meeting may do so by contacting Gary Barrigar.

2018 Tenth Annual Xtreme Roan Adventures

Kids Naturalists Rally

-Larry McDaniel

Encounters of the Eight-legged Kind Stage Show

XTREME ROAN ADVENTURES has been going strong for ten years. Many said this year was the best ever. It seems like I hear that every year but I can't argue. It was an excellent turnout, great weather and tons of fun. The kids had numerous opportunities to take part in nature activities that help them to learn about nature in fun and exciting ways. To me what's most important is that they will keep wanting to get out and enjoy nature for many years to come. They will be our future conservationists, activists, community leaders, voters and stewards of the earth. This is something the planet so desperately needs.

Salamander Adventure and Rock Painting

This year's Kids Rally offered many awesome morning field activities including Salamanders, Birds, Snakes, Spiders, Geology, Millipedes and Centipedes, Tracking, Stream Ecology, Orienteering and more. It was a perfect day to be outside and get your feet wet and your hands dirty.

The excitement continued during the lunch break at the Conference Center. There were Nature Crafts, Live Birds of Prey, Live Reptiles, Fossil Casting and more cool stuff. It looked like a carnival of nature activities. This was all happening while everyone was enjoying the delicious lunches from City Market in Elizabethton TN. Thanks City Market.

But wait, there's more. Afternoon activities included owl pellet dissection, a butterfly lesson and field trip, a hike up to Round Bald from Carvers Gap and snorkeling in the Doe River. It was so hard to choose.

Many thanks go out to all the hike leaders, exhibiters and helpers. These wonderful volunteers give so much of their hard work and time. There wouldn't be a kids rally without them. Ken Turner did a fantastic job of organizing the event by putting in countless hours of hard work. A special thanks goes to the staff at Roan Mountain State Park. They bent over backwards to make it possible for us to have the "Best Xtreme Roan Adventures ever!"

Woody Underwing (Catocala grynea)
New Moth Species for RMSP
Photo by Larry McDaniel

Editor

Nancy Barrigar
708 Allen Avenue
Elizabethton, TN 37643
(423) 543-7576
nbarrigar@friendsofroanmtn.org

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Between Friends

Deadline for Rally Meal Orders – **Payment for rally dinners and lunches must be received by Tuesday, Sept. 4.** 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.

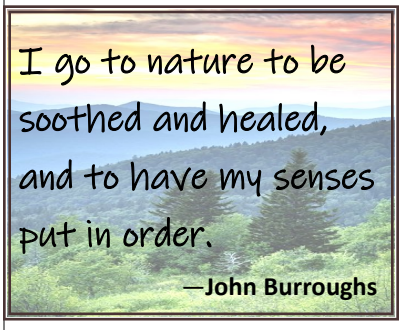
You can now register online. Follow the link on our website's homepage.

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 . . .

Roan Mountain Radio

Get the latest updates on FORM events and listen to interviews with Rally presenters and leaders on Roan Mountain Radio with Ken Turner.

http://www.roanmountainradio.com/



MARK YOUR CALENDAR	Spring Rally	Last Friday - Sunday in April	April 26 - 28, 2019
	Youth - XRA	Last Friday—Saturday in July	July 26 - 27, 2019
	Fall Rally	Friday - Sunday in September after Labor Day	Sept. 7 - 9, 2018
	Winter Rally	Saturday in February near Valentine's Day	Feb. 9, 2019

If you prefer to read your FoRM newsletters online (color version) email nbarrigar@friendsofroanmtn.org with your request.