



— Sam Droege

Native bees are both easy to observe and easy to find. We... have just ignored them. All bees come to flowers, and because of that they conveniently focus our observations of them. In your garden you have flowers as well as hundreds of species in your wildlands. Go to a flower on a native plant and you will find bees. Look closely and you will see some of the 800 bee species that can be found east of the Mississippi, each reflecting the beauty of the flowers they visit. Bees are easier to observe than birds and more common and diverse than butterflies. With a good pair of close focusing binoculars you will be in business.

Ever wonder why there are so many sizes and shapes of flowers; why they bloom at such different times of years? Much of that pattern is simply matching of bloom to bee (and a few other pollinating insects). Flower color and size can be thought of as a bee-attracting signal and flower shape and bloom times (both across calendar dates and at times of day) as a flower's way of excluding insects that might simply rob them of nectar and pollen while favoring those that might be

a pollinator.

Such reciprocity, and millions of years of collaborative work, created the diverse floral types we see and love, unique and attractive to both humans and bees because those beautiful colors and shapes stand out against the greens of chlorophyll and browns of Mother Earth. So evolved are these relationships that many bee species only feed their progeny the pollen from single species or genera of plants. In forests there are groups of bees that specialize on vernal forbs such as spring beauty, bellwort, trout lily...all have their own *Andrena* (Mining Bee) species that does not collect from other plant species. Elsewhere, the ericaceous plants such as *Lyonia*, *Vaccinium*, *Azalea*...also have their own *Melitta* or *Andrena* species. Thirty percent of all pollen carrying bees are highly specialized. Want to learn more? Yes, of course you do! Check out: *Specialist bees of the Mid-Atlantic and Northeastern United States*, jarrodflower.com/specialist_bees.html.

Even bee generalists species, such as most of the sweat bees, require a broad mix of plant species

to compensate for different availability of plants at different times of year and to decrease the impact of the many chemicals plants put in pollen and nectar to reduce attractiveness. What does this mean for you? First, get a pair of butterfly binoculars and begin to learn your bee groups. Second, plant native plants. Don't worry about all the details, simply providing bloom throughout the year is great. Third, tend and preserve diverse native plant communities near you. Invasives, succession to forest, and heavy deer populations are major issues that can decrease a landscape's value to native species and the issues you have power to change. Native bee conservation is really a component of native plant conservation. The two are nearly the same.



— *Bees are Not Optional* —
Apes sunt et non liberum

Sam Droege has spent most of his career at the USGS Patuxent Wildlife Research Center. He is currently developing an inventory and monitoring program for native bees along with online identification guides for North American bees at www.discoverlife.org. Sam will present our Friday evening program on April 28th at 7:30 p.m. in the Roan Mountain State Park Conference Center.



GIFTS & MEMORIALS

Friends of Roan Mountain gratefully acknowledges these charitable donations and memorial gifts.

Donations:

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Joe Ritger



Hikers on Grassy Ridge

Photo—David Ramsey

Share *The Roan*

Consider a gift membership in FoRM

We all love the beauty and the incredible flora and fauna of Roan Mountain. You can help introduce this natural treasure to others with a gift membership in FoRM. Click the Membership tab on our website at www.friendsofroanmtn.org or contact our Membership Secretary at aabernethy@friendsofroanmtn.org.



Hikers on Jane Bald

WILD TIMES

Conservation Through Mountain Sports and Recreation

--David Ramsey

The roots from which American conservation has grown over the last 150 years run deep, and have been nourished, so to speak, by a variety of societal needs and factors, including outdoor recreation. In the late 1800s, the official objective of setting aside public lands was to preserve and protect our great forests for their wood, water, flora and fauna. As exploration of those lands quickly expanded, the fascinating narratives and visual depictions they yielded quickly spread into the Nation's consciousness. The vivid media stories and illustrations, paintings and stunning photographs of our still wild expanses spurred more exploration—and not just by the wealthy or official classes, but by regular working citizens eager to have their own wilderness adventure.

In the early 1900s, the number of Americans spending time in the outdoors grew rapidly. What we still call "car camping" served as the number one activity in the Nation's growing inventory of designated parks and forests. But in the few decades leading to the advent of the Interstate Highway System, in the late 1950s, more and more of the population discovered the pleasures and challenges of canoeing, hiking, recreational hunting, fishing and horseback riding. These activities paired quite well with camping; hence a more authentic "backcountry" experience could be had.

By the late 60s and early 70s snow skiing, backpacking, rock climbing and kayaking drew outdoor enthusiasts to both eastern and western mountains in search of ever more demanding pursuits. It was this period that saw the greatest growth in our ethic of stewardship of outdoor destinations and resources. Countless recreational clubs began springing up across the land, nearly every one recognizing and emphasizing the importance of caring for the places that gave their members so much enjoyment.

Right here, in our own corner of the Appalachian Mountains, outdoor recreation groups and enthusiasts have stepped forward time and time again to defend against forces far more interested in how they might exploit our wild lands for short-term corporate profits than how they might conserve them for their unspoiled value to all Americans.

For example, what might our world-acclaimed Roan Highlands look like today if not for the vision and tireless work of Appalachian Trail advocates such as Stanley Murray, who founded the Southern Appalachian Highlands Conservancy? Murray and SAHC's *raison d'être* was the protection of both the Appalachian National Scenic Trail and the stunning, high mountain balds and forests through which it passed. And more recently, hunters, fishers, hikers, mountain bikers and horseback riders came together and worked tirelessly to permanently preserve the 10,000-acre Rocky Fork Watershed, which at the time was the largest unprotected mountain tract of its kind in the Eastern U.S. Today Rocky Fork is protected, part as a new Tennessee state park and part as an addition to the Cherokee National Forest.

Much of my life has been spent engaged in various aspects of both outdoor recreation and conservation. Join me at this year's Spring Rally to learn more about recreation's role in conserving and protecting our natural wealth and wonders.

David Ramsey was born and raised in Unicoi County, TN. His photography has been published nationally, and he has been recognized both regionally and nationally for his conservation efforts. David will present our Spring Rally's Saturday program on April 29th at 7:30 p.m. in the Roan Mountain State Park Conference Center.



What's New in the Park?

Roan Mountain State Park Recognized as Tennessee State Park of the Year for 2016!

The Tennessee Department of Environment and Conservation has recognized Roan Mountain State Park as the 2016 Park of the Year for its excellence in innovation, sustainability, interpretation, resource management, and fiscal responsibility. This award distinguishes RMSP as excelling among other parks across the state through the efforts of park staff and creative community partnerships. Thanks to F.O.R.M.

for their role as community supporters of the park who have helped RMSP become the best!



Park Conference Center Named in Honor of Sen. Bob Burleson

Former Tennessee State Senator Bob Burleson's influence and efforts to serve the Roan Mountain community were recognized on March 24th when the Conference Center at Roan Mountain State Park was named the Bob and Gail Burleson Conference Center. The late Bob Burleson is remembered as an influential figure throughout the area he represented in the Tennessee Senate from 1972-1986. Senator Burleson was a leader who had played a role in the creation of Roan Mountain State Park, but he may be best known for his creation of the local restaurant Bob's Dairyland. Mr. Burleson died at age 81 on Oct. 3, 2015.

Park Wi-Fi Improvements

During the off-season, park management has worked with communications company Trango Systems to overhaul and expand Roan Mountain State Park's wireless internet capabilities. Hopefully, this upgrade will improve the reliability and range of Wi-Fi in the RMSP Campground as well as expanding the service to the Cabin Areas. Visitors may notice small white transmission towers and discs located throughout these areas of the park that are part of the Trango Systems renovation.

Earth Day Work Day Garlic Mustard Removal



Spring has sprung... and so has the noxious weed, Garlic Mustard. On April 22, RMSP will be celebrating Earth Day 2017 by working with the Southern Appalachian Highlands Conservancy and National Forest Service to remove this exotic invasive species that threatens the native flora of Roan Mountain. If you could like to volunteer for the cause, please dress in clothing that you don't mind getting dirty, wear sturdy boots, a reflective vest if you've got one, and bring work gloves, snacks, and water. Meet at Park Headquarters 9:30 AM for this volunteer workday event.

Garlic mustard, a native of Europe, is a pernicious invasive plant which can quickly crowd out native species. It spreads rapidly, as each plant can produce thousands of seeds which can be dispersed by wildlife, humans, water and other means. It grows in a variety of habitats, in dense shade and in full sun. Garlic mustard is also allelopathic, producing chemicals that inhibit the growth of other plants. As garlic mustard alters the plant diversity in an area, it can also have an effect on wildlife, impacting salamanders and mollusks through a change in leaf litter and impacting butterflies by diminishing available host plants for caterpillars and nectar sources.



Thank You, F.O.R.M. Volunteers!

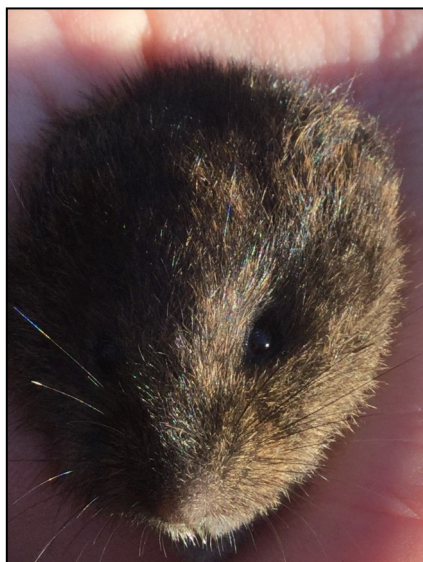
Last fall, some Friends of Roan Mountain volunteered their time as “friends of the park” by supporting our Roan Mountain 10K race event. These important volunteers helped to direct runners and slow vehicular traffic along the race course, hand out water, and cheer on the racers. It takes many hands to put on an event like this one, and volunteers were desperately needed!! Roan Mountain State Park is grateful for the contribution of time and effort made by F.O.R.M. that helped to make the 10K race a success. Anyone interested in volunteering for this year’s Roan Mountain 10K race can contact Park Ranger Meg Guy at meg.guy@tn.gov... and mark your calendars for Saturday, November 4, 2017. Thanks again!



The Microtine Rodents

— Cade Campbell

Anyone who has had even a minor connection to nature has heard of a “field mouse.” The Meadow Vole (*Microtus pennsylvanicus*) is the notorious field mouse. However, it has only a very distant relation to the House Mouse (*Mus musculus*) and the Brown and Black Rats (*Rattus* ss.) which were introduced from Europe during the Colonial Era. Contrary to popular belief this animal is not a mouse, and even though it is a rodent, it is just as closely related to squirrels, groundhogs and beavers as it is to the introduced mice and rats that cause disease problems and unnaturally



The Woodland or Pine Vole, *Microtus pinetorum*, one of the more common native voles; often the most common in shady, moist environments.

become detriments to the environment. Instead, voles belong to a unique group, the Cricetids. Cricetids are the voles, lemmings, hamsters, muskrats (not a type of rat, either) and the New World mice and rats, not the more destructive *Mus* and *Rattus* species.

Voles are typically known as prey animals. In almost every context in nature, especially when it comes to recognizing animal signs, voles are always associated with lifestyles centered around avoiding predation and experiencing it.

Typically, voles live in subterranean/partially underground burrows called runways in open areas, although some species live in woods and rocky outcrops. These runways can run through ideally loose, damp soil, but often run through fallen grass, mud, leaf litter, under rocks, between thickets, etc. In the warmer months, voles enjoy feeding on lots of lush grasses depending on their habitat, but they obviously prefer native grasses and those with the most nutrients, as well as parts of sedges, reeds, rushes, herbaceous plants, and the fallen and low-hanging fruits of brambles, blueberries, ground cherries, roses, orchard trees, and some other plants.

Throughout the late fall, winter, and early spring, voles have a hard time surviving. Edible foliage on plants grows almost nonexistent, and as a result, voles must forage more devotedly to feed on inner bark, cambium, spring ephemeral flowers, buds, fallen tree flowers, tender candles on evergreens, some fungi and lichens, winter rosettes of dandelions and similar plants, dormant bulbs, and clumps of actively growing graminoids. However, even though there are no true herbivores in nature, for voles will cannibalize young to conserve energy for a new batch in case of a predator stalking the nest like mice, voles very rarely eat anything other than plants, making them very true to their seasonal diet.

As naturalists, we must remember that in some years the plants mentioned above can be fairly numerous, to say the least. This results in a phenomenon described as a "vole year" within vole habitats. This phenomenon occurs when optimal conditions allow voles to congregate in an area and reproduce very rapidly, until the resources are relatively depleted by winter, causing the number of predators to boom in order to take advantage of the desperate voles. As a result, the next few years will be spent by the remaining population trying to make up for the losses; a process which leads up to another vole year. Voles customarily have a single

litter in a year, however they may have more.

A decent handful of voles call the biodiverse habitats of Roan Mountain home. *Microtus*, the genus name of the native voles, means "small ears." Voles have dominated hayfields, wilder lawns, gardens, woodland edges, clearings, pasture land, parks, golf courses, oldfield ecosystems and riverside thickets in the Appalachian Mountains. Orchards are a favorite colony location, and fruit farmers lose millions of dollars in "vole year" damage every year. It is very hard for fruit farmers to get rid of voles and keep a supply of apples, pears, peaches, etc., bountiful enough to produce for sale. Also, apiaries, or groups of agricultural beehives, are threatened by so-called field mice, for honey and beeswax are enjoyable snacks for Cricetid rodents including voles, deermice, woodrats, orozomys, and other similar animals when plant and other food grows scarce.

Special "vole-guards" may be seen on even outdated beekeeping equipment.

Meadow Voles also act as vital suppliers of food to the environment themselves. Constricting snakes such as rat snakes and king snakes, as well as venomous copperheads and rattlesnakes, love to feast on voles. Weasels, minks, foxes, bobcats, house cats, accipiters, buteos, falcons, coyotes, skunks, raccoons, opossums, and many other

animals enjoy voles for their food-motivated lifestyle, slow build for a rodent and bountiful biomass. As a staple food, voles have to be numerous, preferably always, but the "vole year" occurrence allows voles to avoid becoming too much of a vital source of energy for the ecosystem to depend on, thereby preventing massive destruction in the food chain if voles were to unexpectedly become scarce.

One species of native vole, the Meadow Vole (*M. pennsylvanicus*), is scientifically named to refer to its range relative to New England, making it feel at home south even into the Southern Appalachian foothills, due to the relatively more northern climate. The Southern Rock Vole (*M. chrotorrhinus*), which is



A deceased Meadow Vole. This is undoubtedly the most common native vole, and has gained the title of field mouse from its habitat and size suggestive of a mouse.

also known as the Yellow-nosed Vole from the meaning of its species name, inhabits boulder-strewn talus slopes and rocky outcrops most often at higher elevations and in areas farther north than Roan Mountain. The last, but definitely not the least of our Microtine voles, is the rebellious little vole which decided to live somewhere along its road of adaptation, to move into the forest to feed on the shade-tolerant plants and roots which other voles won't often venture to access. It is the Woodland Vole (*M. pinetorum*), or Pine Vole. It gets its scientific name from its affinity for pine trees and enjoyment of living under forests composed of them.



The ventral side and teeth of *M. pennsylvanicus*

The Rock Vole thrives in rocky soil, eating plants that enjoy the xeric slopes of boulder-strewn areas. It is probably the least common native vole, but can still be seen where rocks and grasses are plentiful at customarily higher elevations. Woodland Voles, on the other hand, feed on woodland wildflowers, grasses and sedges, and have a narrow almost shrew-like nose. They have smaller eyes, as can be seen in the first picture, and prefer to live underground as much as possible. They also tend to be a tad more omnivorous than most other voles. Another native vole, the Red-backed Vole (*Clethrionomys gapperi*), is not a Microtine (*Microtus* ss.) vole, but is still a Cricetid. You can find these larger voles in fields, preferably woodland edges, living much like Meadow Voles. The Red-backed Vole can be identified by the broad, burgundy or maroon stripe extending down its otherwise agouti gray back. Also, I could hardly bring up native voles without mentioning *Synaptomys cooperi*, also known as the Southern Bog Lemming. It is the southernmost lemming species in North America, and it can be found in highland marshes, spruce-fir forests and heath or grassy balds, as well as fields within northern hardwood forests or mountaintops over 2,000 feet, although they are adaptable and may be found elsewhere relatively often. Often identified as field

mice or voles by the casual observer, bog lemmings have similar behavior to voles, even though they fail to be considered Microtine, and as a result, do not experience the migration behavior of their northern relatives.

In optimal conditions, you may be able to observe lemmings and voles on overcast days crossing roads and fields on the balds, in farm fields, in yards, and in other relatively open areas, even under logs and rocks sharing runways with larger Plethodontid and Mole salamanders.

Hopefully, after reading this, you will appreciate voles for their roles in the environment and understand these overlooked animals better than you did before.

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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 freshman in high school and a rally attendee for several years.



GETTING YOUTH OUTDOORS — KEN TURNER

Confirming information in The Outdoor Foundation's [2016 Outdoor Recreation Participation report](#) (Links below). It proves what the Xtreme Roan Adventures is all about.

The number one reason youth (ages 6 - 12) are motivated to take part in outdoor recreation was **“to be with family and friends.”** The Xtreme Roan Adventures does that.

The third most given reason was **“to experience excitement and adventure”**. The Xtreme Roan Adventures does that.

Some other good reasons revealed in the Outdoor Participation report were; **“to be with people who enjoy the same things I do”, “to be close to nature”, and “to be cool.”**

All very good reasons.

The Xtreme Roan Adventures are on target to meet these needs.

1. - **“To be with family and friends.”** - Bring a friend with you to the Xtreme Roan Adventures. (July 28 & 29) Families are required.
2. - **“To experience excitement and adventure”** - Adventure is our name! There are lots of Adventures to choose from. Go deep in the Doe River, or get high on top of a 6,286' high mountain.
3. - **“To be with people who enjoy the same things”** - We are very group and interest oriented. We have friends who like snakes, and salamanders, and butterflies, and fossils. And tons more .
4. - **“To be close to nature”** - We are all about getting close to nature. You will get closer to some parts of nature than most people ever do. Wild animal rehab, and hawks and owls and more.
5. - **“To be cool”** - You will get so cool you may need a coat in July!

Xtreme Roan Adventures - Friday evening, July 28 and Saturday, July 29, 2017



Scenes from the 2016 Xtreme Roan Adventures

Previous page: Practicing using binoculars
for the Butterflies Field Trip.

Left: Up close with an Eastern Screech Owl

Below: Meeting a snake face-to-face

and: Underwater Adventure — snorkeling in
the Doe River



Updates at
XtremeRoanAdventures.org
and on
[FaceBook Xtreme Roan
Adventures](https://www.facebook.com/XtremeRoanAdventures)

Download the full
[2016 Outdoor Recreation
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report here:

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Outdoor-Recreation-Participation-
Report_FINAL.pdf](https://outdoorindustry.org/wp-content/uploads/2016/09/2016-Outdoor-Recreation-Participation-Report_FINAL.pdf)

The Outdoor Foundation, 419 7th St.
NW, Suite 401, Washington DC
20002;

www.outdoorfoundation.org



Between Friends

Deadline for Rally Meal Orders – Payment for rally dinners and lunches must be received by Tuesday, April 25.



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.

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

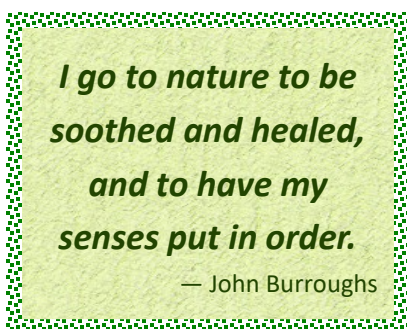


Door Prizes -- We gladly accept items donated for door prizes. These will be given away on Friday and Saturday prior to the evening programs. Ideas: nature-related books, photos or art, outdoor gear, plants, homemade goodies . . .



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/>




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

 MARK YOUR CALENDAR	Spring Rally	Last Friday - Sunday in April	April 28—30, 2017
	Youth - XRA	Last Friday—Saturday in July	July 28 –29, 2017
	Fall Rally	Friday - Sunday in September after Labor Day	Sept. 8 - 10, 2017
	Winter Rally	Saturday in February nearest Valentine's Day	Feb. 17, 2018



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