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The Perspective of a Naturalist - A Personal Story

-- Charles R. Smith

As I write this article, I'm sitting outside on my deck at home. Our dog Brodie, a devoted Border Terrier, is at my side. There's a dark cloud in the West, threatening to send me inside at any moment, and the air is still, though filled with the sounds of birds. Calls and songs of Red-winged Blackbird, Purple Finch, and Scarlet Tanager fill the air, and an Eastern Tiger Swallowtail butterfly drifts by. American Goldfinches are bickering at the bird feeder and a Ruby-throated Hummingbird stops to sip sugar water from one of our feeders. There's an American Robin foraging in the yard, a Common Raven calling in the distance, and a nice cluster of Oyster Mushrooms, candidates for mushroom soup for supper, growing on an aspen stump nearby. Earlier in the week, I was excited to watch a Least Weasel cross our driveway, struggling to carry a half-grown Meadow Mouse, possibly bound to feed her litter somewhere nearby. Eventually, raindrops dapple the keyboard of my laptop and I'm driven indoors.

Everything I've just described gives me unlimited pleasure, satisfaction, and a deeper appreciation for the world around me. It's the result of more than 50 years of study, mostly outdoors and on my own. Not all of it can be taught in a classroom. It's a set of skills I practice daily, wherever I happen to be, and it's within reach of anyone willing to take the time and patience to study living Nature. Today, we have more good field guides available to plants and animals than ever before in American history. Done carefully and thoughtfully, natural history studies can guide conservation. Unless we know what a plant or animal is, where it is found, and how much of it we have, preserving and protecting it can be difficult, if not impossible.

My studies of natural history began with watching birds at bird feeders a carpenter friend helped me to build about

the time I was ten years old, possibly younger. My parents encouraged my interests and bought me field guides that enhanced my skills. When I joined the Tennessee Ornithological Society in 1963, I was extremely fortunate to engage a group of adults who became my greatest mentors. Among them were Fred Behrend, Wallace Coffey, Ken Dubke, and Dr. Lee Herndon, each an accomplished ornithologist in his own right. During countless hours in the field, they taught me skills that I've used throughout my career as a naturalist, educator, and conservationist. Fred Behrend introduced me to the study of plants, especially ferns. Wallace Coffey taught me the importance of taking good field notes. Ken Dubke introduced me to identification of birds using only their calls and songs. Dr. Lee Herndon taught me skills needed to be a good editor, along with the value of healthy skepticism ("When in doubt, throw it out."). I attended the first Naturalists' Rally in 1963, and each subsequent Rally, until I left Tennessee in 1970.

Of all the work I've done, I enjoy teaching the most. My students are my legacy; they will carry messages to a future I never will see. During my career at Cornell University, I was privileged to mentor many exceptional students, among them nearly 30 graduate students and over 1000 undergraduates. Four of my students obtained graduate degrees from Oxford University in England; two of those students were Rhodes Scholars, one the grandson of Thomas Finucane, a Kingsport ornithologist. It is a privilege, an honor, and a pleasure to be invited to the 2015 Roan Mountain Naturalists' Rally to share with you some of my experiences and thoughts about the study of natural history.

Charles R. "Charlie" Smith, Ph.D., a native of Carter County, TN, is a naturalist, educator and conservationist who retired in 2012 from Cornell University where for 40 years he served in various administrative, research and teaching capacities including Executive Director of the Laboratory of Ornithology. Charlie will present our Fall Rally's Friday evening program, *This View of Life*. Find details on our website: <http://www.friendsofroanmtn.org/>.

Spiders

FEAR AND FASCINATION

-- T. J. Jones

If you take a walk in an old field early on a misty morning you can get a sense of just how many spiders are around you as the dew collects on their gossamer webs. You see webs in the low grass, up among the herbs and shrubs, and high up in the trees. If you consider that these are only the



The cute face of the jumping spider, *Phidippus putnami*.

species that build webs, and

there are many others around you that don't, you can appreciate how abundant and important spiders are in the ecosystem. Spiders have been around for about 400 million years and are among the oldest and most successful group of land predators, thriving in most terrestrial habitats on all continents except Antarctica. They have evolved a myriad of behavioral, morphological, and physiological adaptations for catching prey evoking both fear and fascination among us humans.



The yellow garden spider, *Argiope aurantia*, in its decorated web.

Spiders range in size from less than a millimeter to several centimeters in body length, and are important ecologically as a major predator of insects and other arthropods. Some snare insects in webs, some wait in ambush, and others wander on the ground and foliage hunting. Some species hunt at night, some during the day, and some throughout the day. Thus, almost no insect is safe from spiders. But spiders are a link in the food web as well. In our area the major predators of spiders are wasps, birds, frogs and toads, and, to some extent, shrews and bats.



The lampshade spider *Hypochilus pococki*, an ancient lineage of spiders found in the southern Appalachians.

From a scientific perspective, research on spiders has contributed to a wide range of fields. They are particularly good model organisms for studying the ecology, evolution, and neurobiology of behavior, having brains complex enough to be interesting, yet simple enough to be tractable. The venoms of spiders contain complex cocktails of bioactive compounds many of which have been developed in to important medicines. Spider silk is the toughest fiber known, able to absorb far more energy than steel or Kevlar, and research is focused on finding a way to mass produce it.

Setting all the factual information aside, let us appreciate that spiders are elegant, dramatic, and even beautiful. Despite their deadly function, a spider's web is like a work of art in its symmetry and complexity. The courtship displays of jumping spiders are as ostentatious (and comical) as those of the birds of paradise. Many spiders are visually striking, colorful, iridescent, and graceful. The more we know about spiders, the more we can respect and admire them.

Thomas Jones (TJ) is Associate Professor & Associate member of the Graduate Faculty Dept. of Biological Sciences at East Tennessee State University. He leads a broad-based research program in the areas of behavioral ecology, population genetics, and neuroethology. TJ will present the Fall Rally's Saturday evening program, *Elegance and Efficiency: Spiders of Southern Appalachia*.



Xtreme Roan Adventures 2015 was a roaring success thanks to our wonderful volunteers!

-- Heather Jones

Our Friday night kick-off party is always a hit. A free event, it is a great opportunity for kids to seek out our nocturnal creatures such as bats, owls, and moths. Jeremy Stout's fascinating Rock Stars presentation was about the crossover of geology and astronomy. He showed the children how to collect space dust with some string, two red Solo cups, and a magnet. An electron microscope showed the crowd details of elements from meteors. Small groups of about twenty people each went on a Bat Adventure and a Nature at Night hike, while Larry ran a moth sheet in the dark behind the amphitheater.

Saturday morning brought a lot of exciting choices. Kids and parents could choose between Adventures focused on snakes, salamanders, geology, birds, creek walks, insects, animal tracking, and geocaching. For the littlest Adventurers, there was a Scavenger Hunt and a Super Hero walk, where Jennifer showed the kids real life superpowers in nature. Kids and parents explored the creeks and woods for signs of life. Looking closer at nature is what this event is all about!

At lunchtime we headed up to the Conference Center, where we had a great lunch and got together for more crafty adventures. Kids rotated between leaf art, rock painting, gem mining, fossil casting by the Gray Fossil Site, and owl pellet dissection. We got up close and personal with wildlife encounters—a Red-tailed Hawk and Great Horned Owl brought by Bays Mountain; wildlife rehabilitator Denise Shadduck with baby robins, opossums, and a groundhog; and reptiles with Ranger Meg Guy.

Our event closed by leaving the conference center for the popular Baatany Goat Hike up on the balds, and the Butterfly Adventure.

XRA could not take place without the dedication of the naturalists who volunteer their time, our general volunteers, and the wonderful parents who are teaching their children that nature matters! Much thanks to all, and to the sponsorship of Friends of Roan Mountain.



Ready for adventure!



Salamander adventure with Ranger Amanda



Animal tracking adventure!

"If I had influence with the good fairy who is supposed to preside over the christening of all children, I should ask that her gift to each child in the world be a sense of wonder so indestructible that it would last throughout life as an unfailling antidote against the boredom and disenchantments of later years, the sterile preoccupation with things that are artificial, the alienation from the sources of our strength."

— Rachel Carson **The Sense of Wonder**



What's New in the Park?

Congratulations, Park Manager J.R. Tinch!

Roan Mountain State Park has a new Park Manager! James "J.R." Tinch officially took over the leadership of the park back in June after having served almost 2 years at Roan Mountain as a Park Ranger. J.R. began his career when he took his first summer job as a teenager manning the boat house at Cumberland Mountain State Park in his hometown of Crossville, TN, and has been employed in parks ever since. After working in Seasonal Ranger positions at Cumberland Mountain and also in Yellowstone National Park, J.R. was hired as a full-time Park Ranger at Tims Ford State Park in Manchester, TN. After 5 years of service at Tims Ford, he transferred to Roan Mountain in September 2013. Manager Tinch holds a Bachelor's degree in Criminal Justice from Tennessee Tech University, is a TN licensed Advanced EMT, certified wildland firefighter, and Certified Interpretive Guide through the National Association of Interpretation. As the youngest Park Manager currently serving in Tennessee State Parks, J.R. brings a lot of energy, enthusiasm, and fresh ideas to our park. Please take the time to congratulate him on his recent promotion!



The Park Aviary is HERE!

Roan Mountain State Park's latest structure, the new park aviary, is now complete. We are now awaiting final inspections and approval of the facility before the non-releasable Barred Owl and Red-Tailed Hawk can move in! The birds are currently residing at the Blue Ridge Wildlife Rehab Center at Lees-McRae College where they are involved in educational programs led by the students studying Wildlife Rehabilitation. We hope to be taking them in very soon.



Welcome RMSP's Newest Park Ranger, Keifer Helle

Keifer Helle joined Roan Mountain State Park this August to round out the Park Ranger staff. Ranger Helle started with Tennessee State Parks in 2012 as a Seasonal Interpreter at Davy Crockett Birthplace State Park near his hometown of Greenville, TN. He also spent a summer in a seasonal job at Warriors' Path State Park in Kingsport before accepting a grant-funded position in Nashville at the TN State Parks Central Office. Keifer was hired full-time as a Park Ranger in 2014 at Standing Stone State Park on the upper Cumberland Plateau, and served there for a little over a year before accepting a transfer to work here at Roan Mountain. Keifer holds a B.S. degree in Sports and Leisure Mgt. from ETSU. He says that he feels "very blessed" to be at Roan Mountain State Park and that he is looking forward to working with the team here as a Park Ranger to ensure a "positive, safe, and healthy park." Please welcome him to his new mountain home!

2015 ROAN MOUNTAIN BUTTERFLY COUNT

It was a cool and cloudy start to the 2015 Roan Mountain Butterfly Count. It was the 23rd consecutive year for this count, the longest running North American Butterfly Association butterfly count in Tennessee. Weather has always been an unpredictable factor on this count, so we forged ahead on faith that the conditions would improve, and so they did.

In spite of generally low butterfly activity in the region earlier this summer, we had close to normal numbers on the count with 29 species and 605 individuals. Some southern immigrant species were still low, but some of the northern and high elevation species made a decent showing.

An exception to the dearth of southern butterflies was the high count of 26 Cloudless Sulphurs. The native grass and wildflower patches planted in recent years in Roan Mountain State Park have lots of Partridge Pea, which is a host plant for the Cloudless Sulphur caterpillars, and where we found most of the adults.

The northern / high elevation species that were doing well included Meadow Fritillaries (53) and Aphrodite Fritillaries (123). The Aphrodite Fritillaries were in the grassy areas in the Rhododendron Gardens in the afternoon.

Last summer our count was one of only five in the Appalachian region of KY, TN, and WV to report any Monarchs, and we tied with one other count for the high number of 7. This year we saw 3 Monarchs, and with any luck some other counts will beat us soundly.

Two out of the last three years we have found the infrequently seen species known as the Harvester butterfly at Hampton Creek Cove, and we were pleased to see it again this year at the exact same puddle that we have always found it near! It is always good to see old friends, and to make new ones. We hope to see you next year on July 16, 2016 when we continue the grand tradition with the 24th consecutive Roan Mountain TN Butterfly Count. --Don Holt, compiler



Region 13 -- Appalachians (KY, TN, WV)

William Haley, Regional Editor

1. Roan Mountain, TN. Yr. 23, 36.1067°, -82.1105°, center at Carvers Gap, Carter Co., TN, and Mitchell Co., NC, at the crossing of TN Hwy. 143 / NC Hwy. 261 over TN/NC state line. See 1993 report for habitats. **18 July 2015**; 1000-1830 hrs; sun AM 10%, PM 51-75%; 67-81°F; wind 0-5 mi/hr. 2 observers in 1 party. **Total party-hours 8; total party-miles on foot 2. Observers:** D. Draper, Don Holt (910 Smalling Rd., Johnson City, TN, 37601; dnlidht@aol.com).

Pipevine Swallowtail 101, E. Tiger Sw. 27, Cabbage White 39, Clouded Sulphur 12, Orange Su. 16, Cloudless Su. 26, Harvester 1, Gray Hairstreak 1, E. Tailed-Blue 36, 'Summer' Spring Azure 2, Variegated Fritillary 2, Gr. Spangled Fr. 3, Aphrodite Fr. 123, Meadow Fr. 53, Pearl Crescent 35, Question Mark 1, E. Comma 4, Am. Lady 1, Red Admiral 1, Com. Buckeye 5, Red-spotted Purple 1, Viceroy 3, Com. Wood-Nymph 1, Monarch 3, Silver-spotted Skipper 72, Hoary Edge 1, Peck's Sk. 1, N. Broken-Dash 1, Sachem 25.

Unidentified: Swallowtail sp. 4, Speyeria sp. 3, Grass Skipper sp. 1. **Total** 29 species, 605 individuals.



The annual meeting of the Friends of Roan Mountain

will be held during the Fall Naturalists' Rally on Saturday, September 12th, 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 also be held.

The following slate of names has been nominated by the board for this year's election: Pam Baldwin, Gary Barrigar, Richard Broadwell, Ken Turner, and Anne 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.

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.



amanitas on Roan Mountain

— Cade Campbell



Amanita flavorubescens
or **Yellow Blusher**

Photo: Cade Campbell



Amanita flavoconia
or **Yellow Patches**

Photo: Cade Campbell



Amanita sinicoflava

Photo: Cade Campbell

Amanitas are unique mushrooms that truly stand out in highland areas like Roan Mountain, whether enjoying the mycorrhizal nutrients that a spruce-fir forest has to offer (like the *Amanita sinicoflava* mushroom, center) or desperately trying to thrive in mowed lawns (like the panther cap on next page). And it is hard to believe that the deadliest mushroom, as well as some of the most edible mushrooms, come from this same genus.

The thing that makes most people stop in wonder at patches of Amanitas, though, are the regal characteristics that make identifying

the mushrooms so easy. The imposing, ornamental ring, along with the strange, ovate volva at the base, and some times even patches on a viscous cap.

Interestingly enough, the ring, patches and volva, all are remnants of an early stage of the Amanita's growth. At first, the universal veil covers the whole mushroom. As the mushroom grows, however, the veil splits, either forming the volva and patches, or just a volva. The ring, on quite a few amanitas is the result of the remaining veil on the inside of the mushroom. So other than that, an Amanita grows like many other gilled mushrooms.

But not only are Amanitas a dark fear looming over new mushroom hunters, a pride for the experienced mushroom hunter or culinary artist, or a beautiful addition to the natural landscape, they are needed by forests to allow them to survive. The well known Showy Lady's Slipper, a highly endangered orchid, relies on mycorrhizal fungus to survive. In fact, a whole group of plants need fungal symbiosis, and they are called mycotrophs. Some scientists believe that American Beech trees are somewhat mycotrophs! But as well as helping a handful of plants by symbiotic relationships, the Indian Pipe plant and Coralroot Orchids all parasitize the mycorrhizal fungus.

These factors are a big help in biodiversity, and that is very important to Roan Mountain. So as summer and fall turn to winter, if you



Amanita pantherina var. *velatipes* or **Panther Cap**

see these amazing mushrooms, remember what all they do for the forests, indirectly and sometimes even directly helping humans.

Happy Trails, Critter Cade



Cade Campbell and his family have been coming to the Xtreme Roan Adventures since he was ten years old. This year he was the leader for the Creepy Crawlies Adventure.

Watching him grow into a first rate naturalist has been a joy to everyone who knows him. He has a natural talent and a great drive to learn more.

His parents, Chris and Tracy Campbell, have recognized and encouraged his interest in exploring the outdoors.

Critter Cade is currently taking the Tennessee Master Naturalists class and working towards his Eagle Scout rank.

Get a front row ticket. He will be fun to watch!

Between Friends

Deadline for Rally Meal Reservations – All dinner and lunch meals must be prepaid. If you plan to eat a catered dinner or purchase a bag lunch at the Spring Rally, you must send your check in advance. The deadline is **Tuesday, September 8**. 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. We greatly appreciate your cooperation in helping us plan accurately!



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 . . .



Speakers at the next **Winter Rally** on February 13, 2016: David Ramsey on conservation and Rocky Fork State Park, Gary Kauffman, U.S. Forest Service, Asheville, on highlands forest health, and lunch-time speaker Amanda Smithson, RMSP, on edible plants.

<http://www.roanmountainradio.com/>



Get the latest updates on FORM events and listen to interviews with Rally presenters and leaders on [Roan Mountain Radio](http://www.roanmountainradio.com/)

MARK YOUR CALENDAR			
	Winter Rally	Saturday in February nearest Valentine's Day	Feb. 13, 2016
	Spring Rally	Last Friday - Sunday in April	April 29 - May 1, 2016
	Youth - XRA	Last Friday - Saturday in July	July 29 - 30, 2016
	Fall Rally	Friday - Sunday in September after Labor Day	Sept. 11 - 13, 2015



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