



# NaturePhile

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The Balsam Mountain Trust inspires people to be responsible stewards of the natural and cultural resources of the Southern Blue Ridge Mountains through education and conservation leadership.



WOW! While mushrooms (fungi) come in all manner of shapes, sizes, etc., one of the most beautiful is the hemlock varnish shelf fungus (*Ganoderma tsugae*.) found here. This specimen was growing on a dead hemlock tree. When mature this mushroom exhibits the beautiful shiny cap which almost looks as if someone has sprayed shellac on it. A relative of this native fungus found in Asia, has been used by humans for more than two thousand years to help build the human immune system.

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## From the Trailhead:

By Michael Skinner, executive director

### Why Education is Key to Any Conservation Message... and Effort

You're going to be introduced to a new invasive species in this issue (see photo). As I try to keep my cup half—full, there is some good news about this member of the clover family which is that it is a nitrogen fixer. Briefly, this a plant, named Hop clover (*Trifolium compestre* or *procumbens*) and it has a relationship (symbiosis) with a bacteria by which nitrogen is produced to help the plant grow and upon dying, releases that nitrogen to be available to other plants . You'll often see it growing alongside white clover (*Trifolium repens*). This clover, considered naturalized because it's been on this continent for over one hundred years, is prized as a delicious and nutritious forage crop for live-stock. Not only that, but it is also utilized by many pollinators, e.g, bees, butterflies, etc. Hop clover, while good for the soil and other plants, is not yet considered a viable forage crop. My field observations have also not turned up any evidence of it being selected by pollinators. As it turns out, not all invasive species are necessarily bad guys. What's problematic though is how, and to what degree, an invasive/exotic plant or animal may have a negative effect on the environment and how any new immigrant may usurp the positions of other native, and/or established citizens. Some invaders can actually be good citizens. We'll keep you posted on how it's doing with its colonization. Maybe it will out compete the Japanese stilt grass which is so established along the Preserve's roadsides.

This is why what the Trust does is SOOO important. We are hear to facilitate your experiences with the natural world and to help interpret it for you.



The new invader, hop clover (on left), is well-established on Preserve roadsides and spoil areas (near the new Outpost buildings). White clover (right) has been long-established as a volunteer along the same type of growing areas.

**BMP...It's Continuing Mission...to Witness the Next Total Solar Eclipse...in Situ...and with No Traffic to be Concerned About!!!**



There is much excitement being generated on the Preserve about the upcoming total solar eclipse. We are in the process of pulling the logistics together for this, literally, once-in-a-lifetime event which will occur on 21 August in the early afternoon.

Jim Stratigos, BMP's resident astronomer, will present a Trust Talk on Sunday afternoon with the event itself occurring on Monday afternoon, just after lunch.

The Trust, in concert with the Club, will work together to plan this event and you'll be receiving announcements both the Trust and the Club in the very near future.

This an event that should not be

missed. BTW—we are planning installing giant (Hollywood—windstorm-type) fans to blow any cloud cover out of the way. Keep your fingers crossed for a 'totality' awesome event.

### **Watch Out for the Whole Bloomin' $\Theta\eta$ - $\iota\omicron\alpha$ ...er, Mushroom**

What do you get, at least in this part of the world, when you mix equal parts rain, heat and humidity. You get the perfect recipe for an amazingly wonderful bloom of many species of mushrooms. This is just a short note about how many of these amazing creatures are found in the woods on BMP

and in the surrounding environs. The shelf fungus on the cover of NaturePhile and the photo here of one of

This ornate-stalked bolete (*Boletus ornitipes*) is blooming all over the Preserve right now. As with any wild edible always know what you're picking before you decide to cook and eat it. And while there are few poisonous ones, the boletes contain the largest number of edible mushrooms of any group of fungi found in North America. Yay!

- Photo by M. Skinner



many species of boletes, many of which are edible, are fascinating not only for their beauty but also for the many myths and mysteries which surround these most amazing members of the Kingdom Fungae.



## Education Mewsings:

By Jen Knight, Co-Senior Naturalist/Education Director

One of the Trust's many roles over the years has been to facilitate scientific research on Balsam Mountain Preserve's conservation lands. In fact, the Trust has helped coordinate almost forty studies on BMP since 2000 including the currently ongoing ramp and ginseng studies. To ensure that research remains a hallmark of Trust operations, we included data collection goals in our Strategic Plan. We are happy to report that we are already making progress on these initi-

atives this summer.

We have two interns collecting data on the preserve this summer and have two more lined up for the fall. These new research internships are also working toward the strategic initiatives we set for providing more citizen science and volunteering opportunities for high school students. Our water quality intern, Grant Patterson, attends Jackson County Early College and is the first to participate in our pilot high school intern program.

Grant's project involves monitoring water quality at various sites throughout the preserve by observing and recording the presence of aquatic macroinvertebrates (that's water bugs for you liberal arts folks). Certain critters are

considered "indicator species" since their presence or absence can point to stream health. BMP member Dr. John Morse wrote the book, literally, on our region's aquatic macroinvertebrates and has generously lent his time to help us set up sampling protocols and train Grant. This dataset will provide invaluable context to researchers looking to conduct larger studies here on the Preserve.

Our second summer intern, Becca Lind, is a WCU graduate interested in pursuing a field career in botany. She will be monitoring our roadside wildflower plots to assess the success and density of each species. Her findings will help guide planting efforts and seed purchases in future years. She will also be managing the plots' health through weed control and thinning. Her photo-documentation will not only



Jim Palmer, Ph. D., on left, shows our intern Grant how to perform sampling methods for aquatic insects on Sugar Loaf Creek. Grant dived right in (pun intended) and is proving to be very interested the process and methodologies of this sampling project. He also enjoys learning about all the new critters being found as well as trying to identify them.

provide a good record of the project, it will also help us keep members up-to-date on the blooms while their not on the mountain.



The Trust's other intern will work with the wild-flower plots being established on the Preserve. If you look very closely at about the middle of the photo, you'll see a honeybee foraging.

- Photo by: Jen Knight

As in past years, we are continuing our work with the Monarch Larvae Monitoring Project. We (but mostly our AmeriCorps member, Bethany) have been counting and collecting monarch eggs and caterpillars at three sites around the Preserve for rearing here at the Nature Center. All our data about the monarchs and the milkweed in our sites is reported back to the national database.

To round out the year, we have salamander and mammal surveys planned for the fall semester. The WCU interns working on these studies will receive course credit in addition to hands-on experience in field biology. All of these projects, though small-scale, contribute to an ever-accumulating body of data about the Preserve. This information does more than just satisfy our naturalists' curiosity, it informs management decisions, provides background to other researchers, and helps establish a picture of our region's health.

Another added bonus? It's fun! If you haven't had time to check out the "Biologist-for-a-Day" programs offered two Wednesdays a month, make the time and see science in action. Field work is a unique way to enjoy and experience the natural world and you can leave with the satisfaction of having contributed to something bigger. I hope we see you out there, until then – stay curious!



### **AmeriCorps:**

By Bethany Sheffer, CTNC AmeriCorps Service Member

Summer is in full swing, which has meant the delivery of many library programs to facilities in Jackson, Swain and Macon counties for me! I've adored becoming acquainted with these community libraries and engaging interested learners. My program roster for the summer has included topics on backyard birding, vermiculture, (worm composting), and monarch butterflies. All have at least two versions to accommodate both children and adults, and I've been encouraged to hear positive feedback from participants and library staff during my visits. I've also greatly appreciated those of you who've attended one or more of these programs. Thank you very much for your support and enthusiasm surrounding the Trust's commitment to educational outreach!

Aside from hustling to deliver library programs, I've also been learning how to monitor monarch

butterflies and enter data into a citizen science database through the Monarch Larva Monitoring Project (MLMP). This has been rewarding not only for the unique opportunity to witness the magical transformations in the organisms' metamorphosis, but also because it has expanded my paltry field work experience and made me more conscious of scientific processes. Lacking a formal science background, the latter has been particularly valuable to me! Trust staff monitor three designated milkweed patches on the Preserve and collect all eggs and caterpillars to rear (and later release) back at the nature center. I've learned a great deal about a truly amazing creature, the Monarch butterfly, and the science behind its conservation through this wonderful experience.



A single red wiggler worm, shown here, is the best worm to use in vermiculture because of its voracious appetite and hardiness. Did you know there are almost no native species of earthworms in North America? Most came from Europe and other locations.

- Photo by B. Sheffer

Lastly, I'm thrilled to announce that I'll continue to stay on as Balsam Mountain Trust's AmeriCorps Service Member for the 2017-2018 year! We received news recently from the CTNC's Program Director that the program will receive full funding for the upcoming year, securing all positions of those who will continue serving a second term and allowing participating organizations to hire new members. Hooray! I'm delighted to be serving a second term and greatly look forward to seeing you all either this summer or during my next service term beginning in September!



Over 200 people attended Michael's Bird of Prey presentation at the Madison County Public Library's summer program.

The Trust has attracted much interest and large audiences for its programs this summer.

And Finally...

Birds have wings; they're free; they can fly where they want when they want. They have the kind of mobility many people envy.

—Roger Tory Peterson



Michael saw this fledgling robin (*Turdus migratorius*) in his front yard and snapped a quick picture before being robbed the angry mom and dad robins. They are nothing if not protective of their families. Fledging for birds is probably the most dangerous time of their lives as they ultimately end up on the ground, while learning to fly, and become potential prey for many predators.

- Photo by M. Skinner