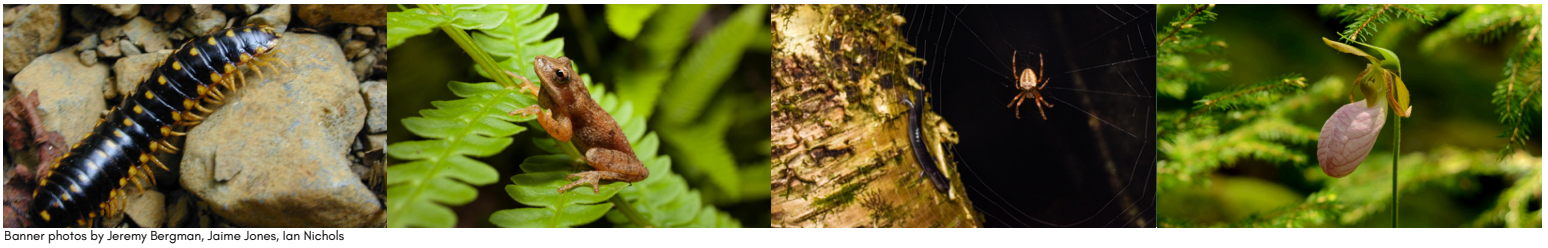
MOUNTAIN LAKE BIOLOGICAL STATION
Echoes
UNIVERSITY of VIRGINIA



Banner photos by Jeremy Bergman, Jaime Jones, Ian Nichols

Produced by the University of Virginia's Mountain Lake Biological Station mlbs.org

Announcing the Peters Endowment and the Stephenson Endowment!

We are thrilled and grateful to announce two new permanent endowments that will make it possible for more student experiences at Mountain Lake Biological Station. Endowments enable students who otherwise couldn't pay for station costs and tuition to participate in classes and pursue research opportunities. We hear all the time how important this aid is in launching careers and changing students lives.

The new endowments were graciously established by Steve and Barbara Stephenson and by Danny Peters. Dr. Stephenson is a retired (University of Arkansas) plant ecologist/mycologist. Mr. Peters is a retired high school and Governor's school educator living in the Tidewater region of Virginia. To introduce them to our current station community, we asked them a few questions about their connections to MLBS and the motivations behind their gifts.



Dr. Steve and Barbara Stephenson at MLBS

What is your connection to Mountain Lake?

Peters – I took 2 courses in 1971 and then spent the summers of 1972 – 74 working on my master's thesis on entocytherid ostracods of the James and York River Basins of Virginia with former Director Dr. Horton Hobbs, Jr., and continued to work with Hobbs at the Smithsonian for 20 years on related projects.

Stephenson – I originally took classes at MLBS in the 1970's and was a Mountain Lake postdoctoral fellow in 1982. I continued to conduct research through the 1980's and 1990's on the biology of myxomocetes.

What motivated you to establish an endowment?

Stephenson – The post-doctoral fellowship at Mountain Lake in 1982 "kick-started" both my research program, which has taken me to all seven continents and every major type of terrestrial ecosystem, and my career that included 20 books on ecology, natural history, and mycology. Several of these books were the direct result of the research I carried out at Mountain Lake.

Peters – I received a dining hall work-study stipend for the summer of 1971. This is my way of paying back that opportunity so others that need some financial support can attend this unique educational experience – it had an effect on my life!

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What do you hope that students will take away from their times at the Station?

Peters – The pure enjoyment of having a summer immersed in field courses and research! And an environment of collegiality and educational excellence.

Stephenson – A greater appreciation for nature in general and those groups of organisms or communities for which they have a particular interest. For me these were the myxomycetes (plasmodial slime molds) and forest ecology, especially forests dominated by oak or red spruce.

From the Director

Every year, I go through the many requests for financial aid for students who want to enroll in a class, or visit the station for graduate work, or from early career scientists trying to establish a new study system or locality. The few endowments that have been established for MLBS in the past are our only sources of funds to help these deserving folks access an experience we all know can be transformative. We are lucky to have these endowments, but none are huge and we can never provide all the help people need. Those students who get MLBS aid are so genuinely grateful and pay it forward with their own hard work and personal growth. It is such a joy to interact with them every summer.

Conversations with university development officers underscore what a curious position fund raising for field stations can present. They tell me that alumni of MLBS and stations like it are among the most enthusiastic people they run into. Past Mountain Lakers are rarely shy about what the experience meant to them personally and professionally. At the same time, these wonderful and devoted alumni rarely go into professional tracks that put them in the position to make gifts at a scale that is self-sustaining. We are grateful and lucky to have a large number of donors who regularly give smaller amounts, but it is rare to be gifted an endowment (let alone two!!) that pays for students in perpetuity.

I hope that explains a bit how deeply, deeply, grateful we are to Danny Peters and Steve and Barbara Stephenson for making the choice to establish a pathway for future Mountain Lakers. At a time when very little seems permanent, these are gifts that are. So heartfelt thanks to both the Stephensons and Mr. Peters for their generosity and the value they so clearly attach to Mountain Lake.

Butch Brodie





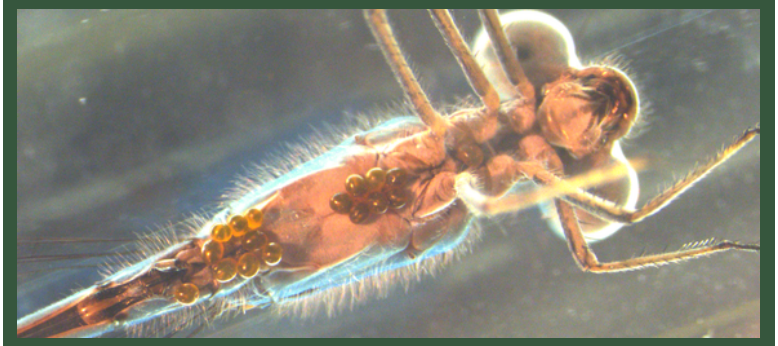
Click to support the programs at MLBS by donating online!

Research Spotlight: Water Mite Hitchhikers

What began with a chance sweep of a net and a little natural history curiosity quickly became a summer course obsession. This summer, Emory professor Dr. Jaap de Roode and Kyra Browning, an undergraduate student in our Behavioral Ecology class, set out to answer a question of their own design: how common are parasitic mites on the damselflies around Mountain Lake?



Working independently from initial experimental design to final analysis, Kyra surveyed 175 damselflies across the station. Nearly a third (55/175) carried hitchhiking mites that were attached to the thorax and abdomen of their winged hosts. Most individuals bore just one or two, though a handful were strikingly, heavily infested. Yet a closer look at behavior revealed a surprise: infected damselflies flew and mated just as readily as their mite-free conspecifics, suggesting these parasites take a lighter toll than their sometimes-alarming appearance implies (and yes, the mites really do look as remarkably gross and cute up close as you'd hope).



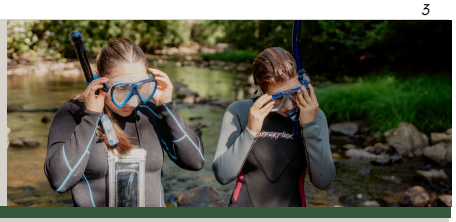


The project is a perfect snapshot of what our summer courses are all about. Students asking their own questions, working with visiting researchers, designing their own studies, and discovering something genuinely new about the animal populations right outside the classroom door.

Article written by Dr. Scott Villa (instructor), and photos taken by Kyra Browning

Student Corner: Mayla Tarango

Mayla Tarango was one of the three undergraduate students participating in our new summer experience - the Field Research Practicum! Below she shares some words about how the summer went.



This past summer I had the greatest pleasure of being accepted into the Field Research Practicum here at MLBS. This program allowed me to take all three summer courses offered at the field station – Field Herpetology, Field Biology of Fishes, and Field Behavioral Ecology. Going into this program, I had no field experience, just a passion for learning more about wildlife biology and ecology. Each of these courses was an absolute blast! Spending every day outside, learning hands-on, and experiencing this wonderful opportunity with great people, was the best way I could've spent my summer.

Going into the herpetology course, I had a fear of snakes and had almost no experience handling herps. However, this course challenged me to face my fears and learn new skills. Through this course, I gained a deeper understanding of snakes and have been able to appreciate these beautiful animals on new levels (I now want one for myself!). Herping quickly became one of my favorite activities. I learned that I had a good eye for spotting these elusive creatures, and finding rare species made this course more special.

The ichthyology course was the most intense regarding fieldwork but extremely rewarding. We got a crash course on field identification of fishes, fly fishing, and snorkeling. We visited many sites and sampled fish from every watershed in Virginia. This allowed us to learn which species were endemic, native, or introduced and established in these sites. During this course, my peers and I went camping and spent every moment of the day with one another allowing us to form amazing bonds that made the fieldwork more fun and enjoyable.

The last course, field behavior, took on a more student-led approach. The first couple of days featured a crash course on wildlife behavior, providing the foundation for our research projects. We were all given the opportunity to research a behavior exhibited by an animal of our choosing. I was very interested in analyzing same-sex behaviors in Japanese beetles – an invasive species that negatively affects ecological processes. This course absolutely revitalized my passion for behavioral research!

Overall, more than obtaining fieldwork experience and learning about field biology and ecology, I got to know some of the best people I've ever had the pleasure of meeting. The professors were all wonderful people and their passion for their work truly shined through. They created a safe and open environment that allowed us all to feel comfortable approaching them with causal conversation and banter, questions about the course, and asking them for valuable life advice. We often shared meals as a class and even enjoyed most of our free time together. The people in these classes really made the experience worth it! Even after leaving this summer haven, I am still in contact with these amazing people. This program definitely unlocked a core memory!



REU Spotlight - Jeremy Bergman

I have been fascinated with wildlife for as long as I can remember and the MLBS Research Experiences for Undergraduates (REU) program helped me explore how the way animals interact with their environments may maintain biodiversity. The hundreds of hours I've spent birdwatching, camping, and volunteering with wilderness organizations over the years inspired me to pursue an Engineering Design major at Rose-Hulman Institute of Technology so I could understand why certain morphologies and behaviors emerge. Initially, I studied bio-inspired robots to learn how biological form and function could inform engineering but became equally interested in why those forms evolved and how they affect an animal's ecology. MLBS allowed me to acquire new skills in field biology and live animal experiments so I could examine ecological factors that affect how animals move and survive in different environments.

My REU experience was hugely formative for me and reinforced my plans to study the evolution, ecology, and biomechanics of animals in nature. During my initial expeditions to find amphibians and reptiles ('herping') at the station, I noticed several species of dusky salamanders (*Desmognathus* spp.) in a stream. These highly territorial species generally occupy different microhabitats but can sometimes be within inches of each other, making me wonder how they coexist. Under the mentorship of



Dr. Sandy Kawano, I was able to combine new skills in motion capture and video tracking software with my engineering background. I compared the escape responses of three salamander species after a simulated attack from a 3D-printed predator and, surprisingly, escape performance was higher on land than underwater for all species (even the predominantly aquatic species)! These results left me with even more questions about how ecology impacts species' movement and survival and I am now applying to graduate school to continue learning more! Without MLBS, I don't think I would be the researcher I am today or pursuing a career in field biology. I also met so many amazing scientists, learned about cutting-edge research in field biology, and had so many fun experiences with my peers, from enjoying the incredible nature of the southern Appalachians to celebrating the 4th of July! I cannot recommend the REU program enough, and am incredibly grateful to everybody who made my MLBS experience amazing!

News & Notes



Memory Quilt

MLBS was honored to receive a handmade quilt from the family of Pat Peroni, a cherished member of the Mountain Lake family who passed away in 2019. The quilt is made from some of Pat's t-shirts, which included a number of MLBS shirts dating back to 1992. Many thanks to Pat's brother, Luke Peroni, and sister-in-law, Jules Wolfe-Peroni (maker of the quilt), for this special gift!



Hybrid Fern

When Jordan Metzgar, curator of the Massey Herbarium at Virginia Tech, was exploring the University of Virginia's herbarium at Mountain Lake, he found something exciting: A specimen of *Osmunda* x *ruggii*, a rare hybrid fern, that was fertile when it was collected from MLBS's Burns Garden in 1980. The fern itself uncommon, but fertile individuals are rarer still. Whether the fern is still present in the garden or not is a question that will have to wait until next year's growing season!

Nominate a Rising Star

Do you know a post-doc or junior faculty who is an up-and-coming scientist in field biology? Nominate them for our Rising Stars in Field Biology Seminar Series! The Rising Star seminar series was developed to amplify the research of early career biologists, and promote networking and research opportunities for them at MLBS. We are seeking nominees who are conducting research in evolution, ecology, behavior, or related fields and have a strong emphasis on field biology. Individuals with the potential to be positive role models for junior scientists (e.g., undergraduate and graduate students, lab technicians, postdocs) would be particularly strong nominees! In addition to showcasing their work, we are particularly eager to invite speakers interested in exploring new research opportunities at MLBS.

Submit your nomination(s) by 11:59 PM (EST) on January 16 using this form. If you have any questions, please contact Dr. Corlett Wood (corlett@sas.upenn.edu).

Tiny Turtles

Station residents got to witness two turtles laying eggs this summer. An Eastern snapping turtle selected the gravel behind Wilbur Lab for her nesting site, and an Eastern box turtle chose the soil near the volleyball court. Nesting snapping turtles are not uncommon here, but juveniles are almost never encountered at MLBS. However, the herpetology class did find one this summer that presumably hatched last year. Box turtles are rarely seen around the Station, so it was especially exciting to observe one laying eggs. Station staff will monitor the sites into the fall to see if the eggs from either nest hatch.





Cottage Painting Update

In 2024, the Station began the process of having cottage exteriors painted. Fresh paint is a great visual improvement, and also protects buildings from the elements so they hold up better over time. Each year a handful of cottages have been painted, and after this fall, only Murray Hall remains. Even Bartram, which serves multiple purposes as a laundry room, facilities shop, bunkhouse, and art studio, got a face lift this year. The entrances and porch of Ruth Patrick Hall, which is perhaps the Station's most iconic building, were painted as well. The Station is grateful to UVA's Facilities Management team for their ongoing support of this work!

Undergraduate Student Research

Our Research Experiences for Undergraduates (REU) program will be recruiting another cohort this summer! This is a fantastic opportunity for undergraduate students who are eager to lead an independent research project on a topic related to evolution, ecology, behavior, and/or physiology in the field under the mentorship of an experienced biologist. Students glean essential knowledge and skills through workshops, seminars, and other professional development opportunities while receiving free housing and meals, a $7,000 stipend, and much more! Applications open in early January and are due on February 12. More details are available at https://mlbs.org/reuprogram.



A Look Back at the 2026 Season...

Station Users

5,057 total user days

- 432 individuals from 52 institutions
- 99 faculty/staff/researchers
- 7 postdocs
- 124 undergraduate students
- 81 graduate students
- 17 k-12 students
- 3 k-12 educators
- 47 guests/family members
- 8 artists
- 46 other visiting group/program participants

REU Participants

- Emalie Abshire
- Isaac Balsamo
- Jeremy Bergman
- Raymond Byrnes
- Srikiran Kondapani
- Anesu Mugoni
- Julia Torgelson

Financial

$57,754 in fellowships awarded to:

- 9 course students
- 3 field practicum students
- 5 researchers

Summer Courses

- Field Herpetology
- Field Biology of Fishes
- Field Behavioral Ecology

Internships and Professional Programs

- NSF Research Experiences for Undergraduates
- ArtLab Artists-In-Residence
- Field Research Practicum





Visiting Courses and Programs

- SPEC School
- SPARCnet RAMP
- Wilderness First Aid
- ESA SEEDS field trip
- Virginia Institute of Marine Science
- Monticello High School field research trip
- Writing in Nature retreat
- Virginia Tech Geosciences department retreat
- Virginia Tech School of Plant and Environmental Sciences writing retreat
- John Campbell Lab retreat



Station Projects

- Ruth Patrick Hall exterior painting
- Cottage exterior painting
- Invasive plant removal
- Trail maintenance
- Beetle exclosure expansion

Station Activities

- 4th of July festivities
- Gourmet s'mores cook-off
- Open House
- Movie nights
- R Users tutorials
- Night lighting for insects
- Karaoke night

UNIVERSITY of VIRGINIA

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MOUNTAIN LAKE BIOLOGICAL STATION

Research Programs

- Phylogeography, admixture, and species delimitation in a complex of cryptic woodland salamanders (*Plethodon jacksoni*)
- Giles County seismic zone earthquake monitoring and analysis
- Identifying genomic signatures of co-adaptation in specialist butterflies and their toxic host plants
- Bridging the disciplinary divide: assessing the impacts of art residency programs at scientific field stations and marine labs
- Quantifying sexual conflict in red-spotted newts across manipulated sex ratios
- Life history conflict as a promotor of polyphagy
- Agriculture Security Early Notification and Threat Network (AgSENT)
- The role of age structure in sexual selection
- Red-backed salamander coverboard surveys
- Studying color vision in hummingbirds
- Comparative biomechanics and functional morphology of animal feeding and locomotion
- Evaluation and validation of vegetation, fuel, and fire behavior tools and technology in hardwood-dominated forest ecosystems of Virginia and the eastern United States
- Speciation and reproductive isolation between the Fire Pink and Wild Pink
- Mapping a secondary contact zone in *Campanula americana*
- Forest structural complexity across Northeastern America
- Field sampling of juncos
- Fern and lycophyte survey
- Sugar feeding ecology of mosquitoes
- Camera trapping of terrestrial mammals in and around MLBS
- Survey for the fly-poison borer moth, *Papaipema amianthii*
- Wind and turbulence structure of the lower atmosphere above MLBS
- 4VA: Observation and modeling of atmospheric boundary-layer temperature and moisture budgets at Mountain Lake, VA
- Remote camera trapping in and around MLBS
- National Ecological Observatory Network (NEON)
- Natural selection on leaf defensive hairs
- Annual census for Junco project
- Mosquito / Frog Interactions



A list of publications related to MLBS is housed in a searchable Zotero database

Photo by Jeremy Bergman