

Appalachia NAMFA 2023



 Hendersonville, North Carolina

"Kanuga" is a word of Cherokee origin, translated as "gathering place." The term may also refer to a ritual stick used in Cherokee ball games; it is believed that the Kanuga stick was used to settle disputes, likely involving communal assembly on the site of the current conference center. This land is considered sacred to Cherokee people and the venue acknowledges a complicated history while challenging those who gather here to strive for justice. NAMA and Kanuga Conference Center invite you to connect with nature and one another while honoring the Indigenous people who gathered here before us.

Welcome to Appalachia NAMA 2023!

This year marks NAMA's largest Annual Foray since 2017, with an attendance that will top 400 mycophiles! Please note that Kanuga does not require proof of COVID vaccinations, temperature checks or the wearing of masks. However, we take everyone's health and safety seriously and encourage you to take such COVID precautions as you deem appropriate.

We are thrilled to feature a stellar collection of mycologists this year, providing you the opportunity to delve into all facets of Appalachian fungal ecosystems. We have four NAMA-affiliated host clubs: Asheville Mushroom Club members, led by Laurie Jaegers and Frank Bartucca, have tirelessly scouted many great foray locations; Sam Landes and Cornelia Cho of Mushroom Club of Georgia; Pat Mitchell of Blue Ridge Mycological Society; and Kenny Rupert of South Carolina Upstate Mycological Society have also contributed incalculably to the success of this event.

We will have an information desk in the Main Lobby near the registration table. Your room keys will be distributed from the Kanuga Conference Center front desk.

Vans for forays will meet on the road outside the entrance of the Main Lodge. Evening keynotes will take place in Balthus-Rodwell Hall, located a short stroll from the Main Lodge, followed by evening socials at Cunningham-Nevius Pavilion.

Daytime lectures will primarily be held in classrooms located in the lower floors of the Main Lodge building; exceptions are noted in this program. Additional foray or workshops sign-ups should be done via the website. We will have instructions and QR codes on site. If you need help, please ask someone at registration.

Please visit the vendors in the Main Lodge for must-have products and publications! We will also be holding our annual Silent Auction of items donated by NAMA members, in the library room of the Main Lodge, with all proceeds going to the NAMA Scholarship Fund.

The NAMA Annual Foray is a wonderful time to catch up with old friends and make new ones! Please consider sharing a table at a meal with someone you don't know and learning about their home clubs. The evening socials, also a chance for making new connections, will feature a cash bar located in the Cunningham-Nevis Pavilion on the edge of the picturesque trout pond, a short stroll from the Main Lodge.

Special thanks to Laurie Jaegers, Frank Bartucca, Kenny Rupert, Pat Mitchell, Cornelia Cho, Sam Landes, Mandie Quark and the Foray Committee, Peggy Green, Connie Durnan, Kathy Yerich, Jess Starwood, Andy Wilson, John Lamprecht, Kristen Blizzard, Rose Tursi, Melodie Gates, Trent Blizzard, Paula Benson and Kanuga staff, and the many other folks who have been essential to producing this event.

Important Foray Information

Important Contact Info

Paula Benson, Kanuga Conference Coordinator: 888.386.9622 ext. 208

Mandie Quark, Foray Committee Chair: 401.493.8648

Peggy Green, Annual Foray Registrar: 319.329.1725

Bruch Reed, Chief Operating Officer: 773.633.9411

For medical or other emergencies, please dial 911

Medical Emergencies

We do not have medical personnel on staff.

Pardee Urgent Care: (8 miles from Kanuga): 828.697.3232

Pardee Hospital: (8 miles from Kanuga): 828.698.7998

Cell Phone Service

Cell phone service and WiFi is good to excellent throughout the Kanuga grounds. If you are unable to reach someone (in case of emergency only), please call the Kanuga main line at 828.692.9136.

Alcohol and Tobacco Use

All indoor areas at Kanuga Conference Center are tobacco-smoke-free.

The Kanuga gift shop sells wine. You may bring your own alcohol and consume it in your lodge room, cabin or meeting room. The possession or use of marijuana is illegal in North Carolina; marijuana and other controlled substances are prohibited onsite.



2023 NAMA FORAY SCHEDULE

THURSDAY, AUG. 24TH

11:30 AM–6:00 PM	Registration: Lobby of Kanuga Main Lodge
1:00–3:30 PM	Early Bird Foray #1: Kanuga Lake Trail
3:00 PM	Official check-in for room reservations begins
5:00–6:30 PM	Dinner: Dining Hall at Kanuga Main Lodge
6:30–7:00 PM	Foray & Workshop Registration Help: Lobby of Kanuga Main Lodge
7:00–9:00 PM	Evening Program: Balthis-Rodwell Building
7:00–7:15 PM	Welcome and Announcements
7:15–7:45 PM	Voucher Collection Project, Finds-of-the-Day Awards with Dr. Andy Wilson
7:45–9:00 PM	Keynote: Western North Carolina & the Southern Blue Ridge: An Ecological Perspective Detailing Native Plant Communities Gary Kauffman
9:15–11:00 PM	Evening Social: Cunningham-Nevius Pavillion

FRIDAY, AUG. 25TH

7:00–8:30 AM	Breakfast: Dining Hall at Kanuga Main Lodge
7:30–8:00 AM	Full-day foray participants pick up box lunches
9:00–11:15 AM	Onsite Beginners Foray #2: Doug Stirling Trail, accessible on foot from Kanuga
9:00–10:15 AM	Special Rare Wetland Walk #1 Onsite Gary Kauffman
8:00–11:15 AM	Half-Day Van Foray #3: Game Lands with Scenic Cascade
8:00–11:15 AM	Half-Day Van Foray #4: Picnic Area by the Creek
8:00–11:15 AM	Half-Day Van Foray #5: Game Lands at Higher Elevation
8:00–11:30 AM	Half-Day Van Foray #20: Conservancy 2
8:00 AM–4:15 PM	Full-Day Van Foray #6: High Elevation
8:30 AM–4:15 PM	Full-Day Van Foray #7: North Carolina State Park
9:00–10:15 AM	Lecture #1: Mesmerized By What Your Eyes Have Seen: An Introduction to Mushroom Identification Arleen Bessette Balthis-Rodwell
9:00–10:15 AM	Lecture #2: Usual and Unusual Fungi Found in North Carolina Dr. Rytas Vilgalys Gooch Main
9:00–10:15 AM	Lecture #3: The Future of American Truffle Cultivation: Destined to be Left Behind? Jasmine Richardson Gooch Room A



2023 NAMA FORAY SCHEDULE

9:00 AM	Silent Auction Opens Library Room, Main Lodge
9:30–11:30 AM	Workshop: DNA Barcoding Mandie Quark St. John's Room, Kanuga Lodge (below dining hall)
9:30–11:30 AM	Workshop: Making and Cooking with Koji Jeremy Umansky Clarke Classroom, Minkler Grove
9:30–11:30 AM	Workshop: Cordyceps Cultivation Jeff Manganaro Hunter Classroom, Minkler Grove
10:45 AM–12:00 PM	Lecture #4: Polypore Identification: Where to Begin Dr. Alan Bessette Balthis-Rodwell
10:45 AM–12:00 PM	Lecture #5: Medicinal Mushrooms – Part 1: The Body Dr. Cornelia Cho Gooch Main
11:15 AM	Morning forays return and drop off specimens Voucher Collection Project Room, St. Paul's Colhoun Gymnasium
12:00–1:15 PM	Lunch: Dining Hall at Kanuga Main Lodge
1:00– 4:15 PM	Half-Day Van Foray #8: Hendersonville State Forest
1:00–4:15 PM	Half-Day Van Foray #9: Conservancy 1
12:30–4:30 PM	Half-Day Van Foray #21: Conservancy 3
12:30–4:30 PM	Half-Day Van Foray #10: South Carolina State Park
1:15–2:30 PM	Lecture #6: An Outline of North American Macrofungi Biodiversity in Ten Years Stephen Russell Balthis-Rodwell
1:15–2:30 PM	Lecture #7: Regenerative Mycology William Padilla Brown Gooch Main
1:15–2:30 PM	Lecture #8: Slime Molds Dr. Julia Kerrigan Gooch Room A
1:00–5:00 PM	Workshop: Basket Weaving Karen Milnes Jackson Classroom, Minkler Grove
1:30–3:30 PM	Workshop: DNA Barcoding Mandie Quark St. John's Room, Kanuga Lodge (below dining hall)
3:00–4:15 PM	Lecture #9: Richer than Gold: the Fungal Biodiversity of Reserva Los Cedros, a Threatened Andean Cloud Forest Part 1 Danny Newman Gooch Main
3:00–4:15 PM	Lecture #10: Sleeping Giants: Morchellaceae Truffles in Eastern North America Benjamin Lemmond Gooch Room A
3:00–4:15 PM	Review of Specimen Collections with Mycologists Voucher Collection Project Room at St. Paul's Colhoun Gymnasium
4:00–5:30 PM	NAMA Board Meeting Gooch Room C



2023 NAMA FORAY SCHEDULE

4:15 PM	Afternoon and Full-day Forays return: Drop-off specimens Voucher Collection Project Room at St. Paul's Colhoun Gymnasium
5:00–6:30 PM	Dinner: Dining Hall at Kanuga Main Lodge
6:45–7:30 PM	Foray & Workshop Registration Help: Lobby of Kanuga Main Lodge
7:00–9:00 PM	Evening Program: Balthis-Rodwell Building
7:00–7:15 PM	Announcements
7:15–7:30 PM	Voucher Update and Finds-of-the-Day Awards with Dr. Andy Wilson
7:30–7:45 PM	NAMA Awards and Scholarships with Bruch Reed & Kathy Yerich
7:45–9:00 PM	Friday Keynote: Mushrooms of the Southern Appalachians Dr. Brandon Matheny
9:00–11:00 PM	Workshop: UV Night Hike Alan Rockefeller and Patrick Mitchell Starting after Keynote, meets at Minkler Grove
9:15–11:00 PM	Evening Social: Cunningham-Nevis Pavillion

SATURDAY, AUG. 26TH

7:00–8:30 AM	Breakfast: Dining Hall at Kanuga Main Lodge
7:30–8:00 AM	Full-day Foray participants pick up box lunches
8:30–11:15 AM	Half-Day Van Foray #11: North Carolina State Forest
8:00–11:30 AM	Half-Day Van Foray #12: Appalachian Bog
9:15–11:30 AM	Half-Day Self-drive/Carpooling Foray #18: Camp Ton-A-Wandah (5 min from Kanuga) Walk A
8:30 AM–4:30 PM	Full-Day Van Foray #13: Headwaters Valley
9:30 AM–4:15 PM	Full-Day Van Foray #14: County Line Riparian Forest with Local Lunch (\$25)
8:30 AM–4:15 PM	Full-Day Van Foray #15: NC/SC State Line Riparian Forest
9:00–10:15 AM	Special Rare Wetland Walk #2 Onsite Gary Kauffman
9:00–10:15 AM	Lecture #11: The Forest Mycobiome: DNA-based Study of a Truffle Orchard Dr. Rytas Vilgalys Balthis-Rodwell
9:00–10:15 AM	Lecture #12: Overview of Mycotextiles Dr. Julia Kerrigan Gooch Main
9:00–10:15 AM	Lecture #13: Medicinal Mushrooms – Part 2: The Brain Dr. Cornelia Cho Gooch Room A
9:30–11:30 AM	Workshop: Making and Cooking with Koji Jeremy Umansky Clarke Classroom, Minkler Grove



2023 NAMA FORAY SCHEDULE

9:30–11:30 AM	Workshop: Cordyceps Cultivation Jeff Manganaro Hunter Classroom, Minkler Grove
10:00 AM–12:00 PM	Workshop: Culinary Arts Tasting Olga Katic Cunningham-Nevius Pavillion
10:45 AM–12:00 PM	Lecture #14: Polypore Identification: Where to Begin Dr. Alan Bessette Balthis-Rodwell
10:45 AM–12:00 PM	Lecture #15: The Future of American Truffle Cultivation: Destined to Be Left behind? Jasmine Richardson Gooch Main
10:45 AM–12:00 PM	Lecture #16: Fungi and their Relationship with Plants Dr. Kristen Wickert Gooch Room A
11:15 AM	Morning forays return, drop-off specimens: Voucher Collection Project Room at St. Paul's Colhoun Gymnasium
12:00–1:15 PM	Lunch: Dining Hall at Kanuga Main Lodge
1:00–4:15 PM	Half-Day Van Foray #16: North Carolina State Forest
12:30–4:30 PM	Half-Day Van Foray #17: North Carolina State Park with Special Permission
1:30–4:30 PM	Half-Day Self-drive/Carpooling Foray #19: Camp Ton-A-Wandah (5 min from Kanuga) Walk B
1:00–5:00 PM	Workshop: Basket Weaving Karen Milnes Jackson Classroom, Minkler Grove
1:15–2:30 PM	Lecture #17: Migratory Mushroom Foraging in North America William Padilla-Brown Balthis-Rodwell
1:15–2:30 PM	Lecture #18: Richer than Gold: the Fungal Biodiversity of Reserva Los Cedros, a Threatened Andean Cloud Forest Part 2 Danny Newman Gooch Main
3:00–4:30 PM	Review of Specimen Collections with Mycologists Voucher Collection Project Room at St. Paul's Colhoun Gymnasium
3:00–4:15 PM	Lecture #19: An Overview of the Genus Mallocybe (Inocybaceae) from North America Dr. Brandon Matheny Balthis-Rodwell
3:00–4:15 PM	Lecture #20: Fungi and their Relationship with Plants Dr. Kristen Wickert Gooch Main
3:00–4:15 PM	Lecture #21: Tuber, the Über Truffle Benjamin Lemmond Gooch Main
3:00–5:00 PM	Workshop: Culinary Arts Tasting Olga Katic Cunningham-Nevius Pavillion
4:15 PM	Afternoon and full-day forays return: drop off specimens Voucher Collection Project Room at St. Paul's Colhoun Gymnasium
5:00–6:30 PM	Dinner: Dining Hall at Kanuga Main Lodge



2023 NAMA FORAY SCHEDULE

7:00–9:00 PM	Evening Program: Balthis-Rodwell Building
7:00–7:15 PM	Announcements
7:15–7:30 PM	Voucher Update and Finds-of-the-Day Awards with Dr. Andy Wilson
7:30–8:00 PM	Art Contest: Rose Tursi Next Year’s Foray: Mandie Quark and Trent Blizzard
8:00–9:15 PM	Keynote: Mountains-to-Sea: Fungal Diversity of North Carolina Arleen Bessette Balthis-Rodwell
9:15–11:00pm	Workshop: UV Night Hike Alan Rockefeller and Patrick Mitchell Starting after Keynote, meets at Minkler Grove
9:30 PM	Silent Auction Ends
9:30–11:00 PM	Evening Social: Cunningham-Nevis Pavillion

SUNDAY, AUG. 27TH

7:00–8:30 AM	Breakfast: Dining Hall at Kanuga Main Lodge
9:00–10:00 AM	Pack up and check out of rooms (check out no later than 10:00 AM)
10:15–11:45 AM	Final Collections Walk-Through Voucher Collection Project Room at St. Paul’s Colhoun Gymnasium
12:00–1:15 PM	Lunch: Dining Hall at Kanuga Main Lodge

IMPORTANT NOTES

All forays leave from the Main Lodge.

Please be 15 to 20 minutes early, as forays must always leave **ON TIME***



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Meet Your 2023 NAMA Foray Speakers



Presenter & Host Mycologist:

Arleen Bessette

Lecture: *Mountains-to-Sea: Fungal Diversity of North Carolina*

Lecture: *Mesmerized By What Your Eyes Have Seen- An Introduction to Mushroom Identification*

Arleen Bessette is a retired psychotherapist, as well as a mycologist and botanical photographer. She has been collecting and studying wild mushrooms for more than forty years. A member of the NAMA, the Asheville Mushroom Club and The Gulf South Mycological Society, she has published several papers in the field of mycology and has authored or coauthored more than fifteen books, including *Boletes of Eastern North America*, *The Rainbow Beneath My Feet: A Mushroom Dyer's Field Guide*, *Polypores and Similar Fungi of Eastern and Central North America*, and the forthcoming *A Field Guide to the Mushrooms of Georgia*.



Presenter: Alan E. Bessette, Ph.D.

Lecture: *Polypore Identification: Where to Begin*

Alan E. Bessette, Ph.D., is a professional mycologist and distinguished emeritus professor of biology at Utica College of Syracuse University. A member of NAMA, Mid-York Mycological Society, Asheville Mushroom Club and the Gulf South Mycological Society, he has published numerous papers in the field of mycology and has authored or coauthored more than 25 books. He has been the principal mycologist at continental and regional forays and was the recipient of both the 1987 Mycological Foray Service Award and the 1992 NAMA Award for Contributions to Amateur Mycology.





Presenter: Dr. Cornelia Cho

Lecture: *Medicinal Mushrooms: Part One: The Body*

Lecture: *Medicinal Mushrooms: Part Two: The Brain*

Cornelia Cho, M.D. is a practicing board-certified pediatrician, Mushroom Club of Georgia president, citizen-scientist and artist. In addition to pediatric emergency room experience and a pharmacology fellowship, she has trained in Mind/Body & Brain science, drug-free therapies for treating trauma, and wilderness medicine preparedness. She has been a previous presenter at NAMA and to numerous mycological societies across the US. She's excited about her upcoming keynotes in September---one on the Microbiome for the Midwest Harvest Festival and the other on "The Mycelial Brain" for the Mycelium Mysteries Conference. She has particularly enjoyed teaching "Mushroom Immersion" classes at John C. Campbell Folk School alongside her husband of 25 years, Sam Landes.



Presenter: Olga Katic

Workshop: *Culinary Arts Tasting*

Olga Katic grew up mushroom hunting with her relatives in Bosnia and Hercegovina. She is the proud owner of Mushroom Mountain and has an amazing team working with her to produce mushroom spawn for many different edible and medicinal varieties. Mushroom Mountain makes several different medicinal mushroom extracts and honeys under the name Mycomatrix, and runs a Wild Mushroom Food Safety Certification Program that has been accepted by Health Departments of seven states and counting and is also endorsed by the FDA.



Presenter: Gary Kauffman

Lecture: *Western North Carolina and the Southern Blue Ridge: An Ecological Perspective Detailing Native Plant Communities*

Lecture: *Southern Appalachian Bogs: Ecology and Rare Species*

Gary Kauffman is the botanist/ecologist for the Forest Plan. He has worked with the National Forests in North Carolina since 1992, serving as the botanist for the Nantahala National Forest before taking the position as Forest Botanical Products Specialist. Since 2002, he has coordinated the invasive plant program for the state's four forests. Gary has a MS from Ohio University specializing in botany and Acrasiomycetes (slime molds).



Presenter: Dr. Julia Kerrigan

Lecture: *Overview of Myco-textiles*

Lecture: *Slime Molds*

Dr. Julia Kerrigan is an Associate Professor of Mycology in the Department of Plant and Environmental Sciences at Clemson University in South Carolina. The underlying theme in her research is elucidating the basic biology of fungi and their interactions with other organisms. She teaches Introductory Mycology and Mycology Practicum, as well as Fungi and Civilization. Julia is a cofounder and President of the South Carolina Upstate Mycological Society (SCUMS). She is also the current President of the Mycological Society of America.



Presenter: Ben Lemmond

Lecture: *Tuber, the Über Truffle*

Lecture: *Sleeping giants: Morchellaceae truffles in Eastern North America*

Ben Lemmond is a Ph.D. Candidate at the University of Florida in Dr. Matthew Smith's lab. Ben's research focuses on biodiversity and ecology of truffle fungi and their relatives, especially ascomycete truffles in the order Pezizales.



Presenter: Jeff Manganaro

Workshop: *Cordyceps Cultivation*

Jeff Manganaro is a *Cordyceps* hunter and breeder working to develop methods to use these fungi in ways that are mutually beneficial to people fungi and the environment.





Presenter: Dr. Brandon Matheny

Lecture: *Mushrooms of the southern Appalachians*

Lecture: *An overview of the genus Mallocybe (Inocybaceae) from North America*

Dr. Brandon Matheny is a professor at the University of Tennessee (UT) in the Department of Ecology and Evolutionary Biology. He is a fungal biologist with a research and teaching focus on systematics and ecology of mushroom-forming fungi. Brandon was a history undergrad at Oklahoma State, received his Ph.D. in Botany at the University of Washington, did a five-year postdoc at Clark University working on the fungal tree of life, and has been a professor at UT since 2008. He is currently working on a systematic revision of the mushroom family Inocybaceae in North America and a floristic treatment of mushrooms in the southern Appalachians.



Presenter: Karen Milnes

Workshop: *Mushroom-foraging Basket-weaving*

Karen Milnes has a studio art degree from the University of Virginia with a concentration in printmaking. Cabin Critter Designs is her print shop and studio in the Highlands of Virginia, specializing in logo design, functional art and home décor. Often inspired by her surroundings, her work trends towards natural subjects and colors and spans many mediums, but she is always willing to try something new.



Presenter: Pat Mitchell

Workshop: *UV Night Hike*

Pat Mitchell is a self-taught amateur mycologist. Originally from a suburb outside of Chicago, he now lives with his wife and three children in central Virginia where, in 2018, he became the cofounder and president of the Blue Ridge Mycological Society. Mitchell also works with the Lynchburg Parks & Rec. as the Mycology Communicator, teaching basic mycology courses, for residents and nonresidents of Lynchburg.



Presenter: Danny Newman

Lecture: *Richer than Gold: the fungal biodiversity of Reserva Los Cedros, a threatened Andean cloud forest*

Lecture: *On the Rise of Parataxonomy*

Danny Newman is an independent parataxonomist and photographer interested primarily in the systematics of Andean-Amazonian fungi. In addition to several self-directed biodiversity inventorying initiatives, Newman has provided research assistance to graduate students of San Francisco State University, SUNY College of Environmental Science and Forestry, and the University of Oregon, encompassing a combined 13 countries across five continents. Formerly a curatorial intern at the Cornell Plant Pathology Herbarium in Ithaca, New York, and librarian to the Mycological Society of San Francisco, he currently resides in northern New Mexico. Newman's photography can be found on Instagram (@kallampero), with detailed observations on the citizen science platform, iNaturalist (@myxomop).



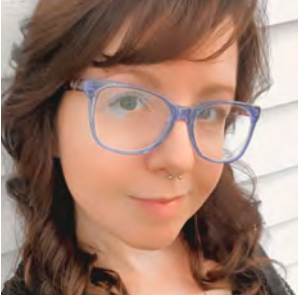
Presenter: William Padilla-Brown

Lecture: *Regenerative Mycology*

Lecture: *Migratory Mushroom Foraging in North America*

Founder of MycoSymbiotics, William Padilla-Brown is a Multidisciplinary Citizen Scientist. He is passionate about the myriad uses of cannabis, especially its psychoactive resin, and is constantly in the mix of Contemporary Ritual in a nuanced modern Urban Shamanism, spending his time vlogging for social media, writing, contributing for *FUNGI Magazine*, researching, rapping, singing, and loving his Beautiful Lady Lydia, their son Leo and daughter Xara. He holds Permaculture Design Certificates acquired through Susquehanna Permaculture and NGOZI, and a Certificate from the Bigelow Laboratory for Ocean Sciences for completing their Algal Culturing Techniques Course. William wrote the first books in English on *Cordyceps* cultivation.





Presenter: Mandie Quark

Workshop: *DNA-Sequencing*

Mandie Quark, the self-proclaimed Mushroom Madman, received her bachelor's degree in Chemistry from Honors College. She spent the first part of her career studying molecular biology in academia, earning her master's degree in Biochemistry from the University of the Sciences, she performed high-throughput screening in a chemical genomics lab. Mandie has been a featured guest on many podcasts and her series of advanced classes for mycologists has been well received by the mycology community. In 2023, she started several new collaborations and is extremely excited about what her future in fungi will hold.



Presenter: Jasmine Richardson

Lecture: *The Future of American Truffle Cultivation: Destined to be left behind?*

Jasmine Richardson is a professional microscopist and third-generation farmer. Her father planted the idea of growing truffles in her mind in 2014, and she established a *Tuber melanosporum* orchard on her family farm in Virginia in 2021. She independently studies truffle cultivation through hands-on training and microscopical analysis and has completed educational coursework in Europe and North American institutions. She is the former vice president and treasurer of the San Francisco Microscopical Society. Jasmine is currently focused on how more accessible microscopical descriptions and images of ectomycorrhizal morphologies, combined with DNA analysis, can materially assist today's truffle tree nurseries and orchards.





Presenter: Alan Rockefeller

Workshop: *UV Night Hike*

Alan Rockefeller is an expert mycologist in high demand at mushroom events where he teaches workshops on DNA barcoding, field photography, and fungal microscopy. He has been studying fungal diversity for more than two decades, and since 2001 he has photographed more than 2,500 species. Alan regularly leads forays all

over North America, including Mexico, where he has been studying mushroom diversity for 15 years. This March Alan conducted field work in the Amazon rainforest in Ecuador. As of today, Alan has uploaded more than 700 of his own fungal DNA sequences to Genbank, and he is a co-author on several scientific papers, including publications documenting new species. He has identified over 250,000 fungi on websites like iNaturalist, Mushroom Observer and Facebook.



Presenter: Stephen Russell

Lecture: *An Outline of North American Macrofungal Biodiversity in Ten Years*

Stephen Russell is a mycologist from Indiana working on a biodiversity survey of all the macrofungi (mushrooms) that occur in the state. He founded The Hoosier Mushroom Society in 2009 and currently serves as its president. His initial interest in mushrooms began with

cultivation, which led to writing a book titled *The Essential Guide to Cultivating Mushrooms* (Storey Publishing, 2014). He has chaired the NAMA Mycoflora Committee and was a cofounder of the North American Mycoflora Project. Stephen's current project is a citizen-science and DNA-based exploration of continental macrofungal biodiversity, which has now generated tens of thousands of new DNA-sequenced collections of fungi.





Presenter: Jeremy Umansky

Workshop: *Making and Cooking with Koji*

Jeremy Umansky, a member of Ohio Mushroom Society, is coauthor (with Rich Shih) of *Koji Alchemy: Rediscovering the Magic of Mold-Based Fermentation (Chelsea Green, 2020)*. He is also a James Beard Award-nominated chef and chef/owner of Larder: A Curated Delicatessen & Bakery in Cleveland, OH.



Presenter: Dr. Rytas Vilgalys

Lecture: *The forest mycobiome: DNA-based study of a truffle orchard*

Lecture: *Usual and unusual fungi found in North Carolina*

Dr. Rytas Vilgalys' lab at Duke University studies the natural history of fungi, including their genetics, ecology and evolution. Together with his lab group, Vilgalys has published over 200 scientific articles, with over 28,000 citations. Their current research program employs genome sequencing and metagenomics to 1) identify communities of fungi associated with forest trees, including pines, poplars, and eucalypts; 2) investigate molecular functioning of fungal communities with their tree hosts using multi 'omics tools. These studies have broad relevance for understanding genetics of plant-fungal interactions (symbiosis), microbial ecology of forest ecosystems, and invasive biology of introduced species.

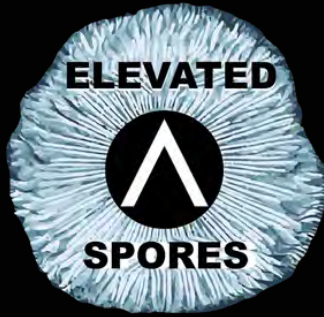


Presenter: Dr. Kristen Wickert

Lecture: *Fungi and their Relationship with Plants*

Dr. Kristen Wickert has utilized Instagram to educate the public on the natural world. Her Instagram account, [@KaydubsTheHikingScientist](#), includes information about organisms and conservation efforts to expose the public to the world around them. Her educational background includes a bachelor's in Forest Biology and a master's and Ph.D. in Plant Pathology. Her master's work focused on endophytic and plant pathogenic fungi in eastern hemlock needles and their ability to act as facultative entomopathogens against the devastating insect, hemlock wooly adelgid. During her Ph.D. she researched plant pathogenic fungi in controlling the invasive tree-of-heaven. *(Photo by Damon Tighe)*

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KANUGA LAKE INN:

- A** Front Desk-Registration, Lobby, Library, Charlie's Canteen, & Bookstore
- B** Dining Rooms

LODGING:

- C** Inn Rooms
- D** Cottages (L1 - D2)
- E** Guest Houses: (A-KatyDid-St.Mark's, B-Pritchard, C-Hartley, D-St.John's, E-St.Paul's, F-Grace-Ocala)

- E** Lucia Fox Cottage
- F** Harold House
- G** Carter Lodge

MEETING SPACES:

- H** Balthis-Rodwell Building
- I** Gooch Program Building
- J** St. John's Meeting Room
- K** First Floor Meeting Room
- L** Flanagan Center

- M** Minkler Grove Classrooms: B-Clarke, C-Jackson, D-Hunter, Colhoun Room
- N** Johnson Fireplace Lounge
- O** Rocking Chair Porch
- P** 2nd & 3rd Floor Common Room
- Q** Breezeway Classrooms
- S** Administrative Office

KANUGA CONFERENCE



KANUGA

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 www.kanuga.org

(A-Finlay,
E-Percival)

rooms

WORSHIP & MEDITATION:

- T** Chapel of the Transfiguration
- U** Lakeside Chapel
- V** St. Francis Chapel
- W** The Labyrinth
- X** Serenity Garden

RECREATION & OTHERS:

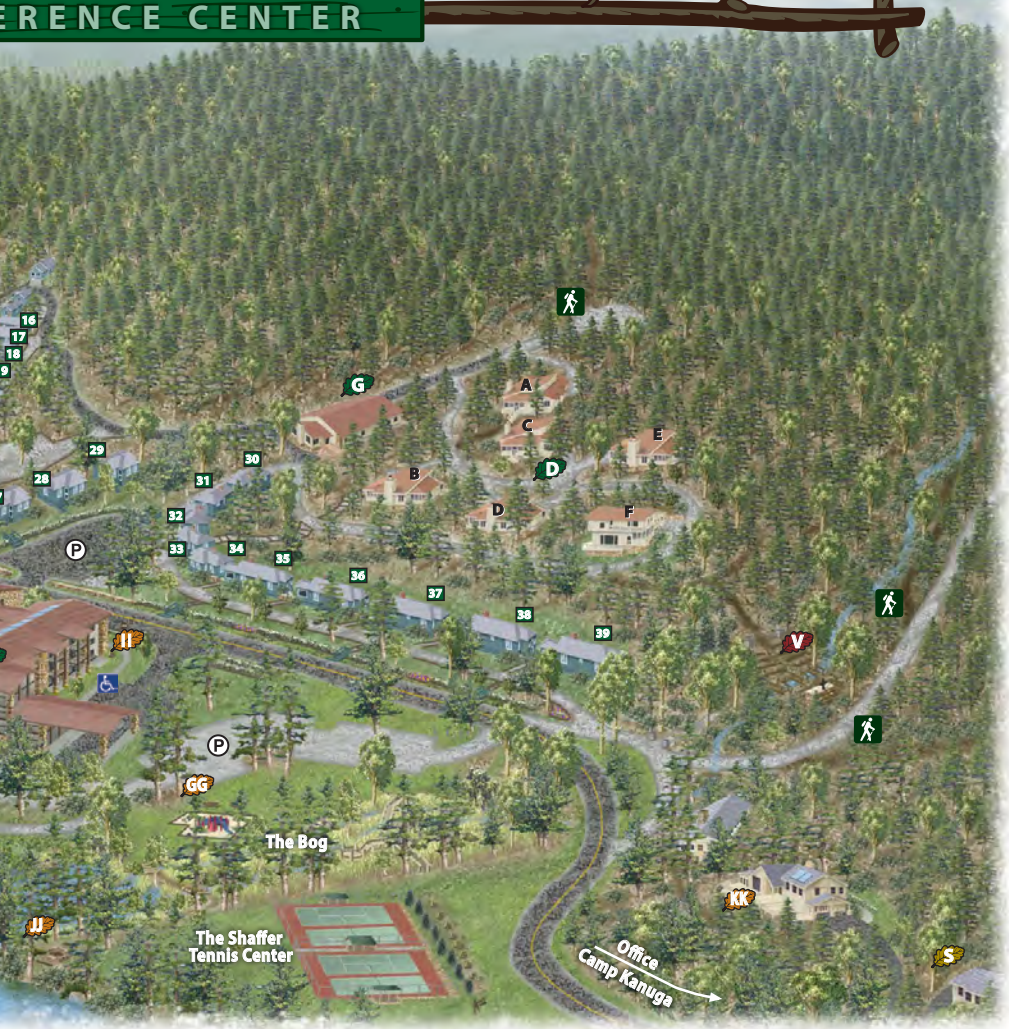
- AA** Cunningham-Nevis Pavilion
- BB** Buddy Carter Climbing Tower

- CC** Baker Building
- DD** Pinky Elliot Playing Fields
- EE** St. Paul's-Colhoun Gym
- FF** Fishing Pier
- GG** Playgrounds
- HH** Shuffleboard Courts
- II** Guest Laundry
- JJ** The Point (Bonfire Area)
- KK** Lakeview House

BOB CAMPBELL YOUTH CAMPUS:

- LL** Brian Wood Center
- MM** Andrews Dining Hall
- NN** Gehman Chapel
- OO** Archery Range
- PP** High Ropes Courses
- QQ** Perry Pavilion & Erin's Corner (Nature Center)
- RR** Camper Cabins

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Welcome to North Carolina

Safety is key when exploring the woods. Keep yourself and your foray teams in good spirits by being prepared for adventure. Arrive early for the buses and on time for meals so you are well fed before heading into the woods.

Apparel: Good walking shoes or hiking boots, long-sleeved shirts and long pants plus socks are recommended. Rain gear, sun protection and a hat are prudent as weather can change quickly.

Safety: Remember to stay hydrated. Set your phone/watch to keep track of when to return to the foray vehicle; Please the complimentary safety whistle for use in emergency situations. A small first-aid kit and a personal headlamp are prudent.

Ticks: Ticks are common. Wearing insect repellent is a good way to discourage ticks or other biting insects; you should still check for ticks after each outing. Remove any embedded ticks promptly using tweezers or specially designed tool. Lightly pinch the tick as close to your skin as possible; don't squeeze the tick's body fluids into yourself. Pull the tick straight out. Wash and disinfect the area and apply antibiotic ointment.

Snakes: North Carolina snakes are not venomous but you should be aware of copperheads, cottonmouths and rattlesnakes, which dwell on rocky hillsides, along the edges of forests, among trees and in streamside brush. Wear protective footwear and be aware when hiking; look the ground over, particularly around large rocks or logs, especially if you stop to take a rest. Never place your hands under rocks or logs and step up onto rocks or logs first to alert snakes of your presence, rather than stepping directly over without first seeing what's on the other side.



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Collecting Fungi for Study & Vouchering

Use a sturdy knife, dig under the duff, bark or other substrate to remove the entire specimen, keeping the base intact and any rhizomorphs or mycelia attached if possible.

- Pick fresh, intact specimens; specimens that are in poor condition are only useful if they are the only example of a species.
- Collect specimens of varying maturities when available. Otherwise, we do not need multiple specimens of the same species.
- Place each collection in its own wax bag to avoid cross-contamination. Do not clean the specimens; leaves, dirt, bark, moss, etc. from the substrate are part of what Dr. Patrick Leacock calls the mushroom's "story!"

Please fill out a foray field slip as completely as you can and place it in the wax bag with the specimen. Always print clearly; your writing must be legible. Please be sure to include the following:

- the field trip number
- your name; we may want to ask questions, or recognize you for a find-of-the-day!

Dropping Off Specimens for ID and Vouchering

Foray vans will drop you off at the Gymnasium, where the Voucher Collection Project specimen-collection room is located.

Presorting tables will be right inside, labeled with the number of each individual foray site.

- Place each species on its own tray, with its ID slip.
- DO NOT take your mushrooms to the ID tables. Let the Identifiers sort through them. From the presort foray table, your specimens must go through several steps first:
 1. ID confirmation by a designated identifier
 2. photography and entering into the foray database (Vouchering system)
 3. sampling for DNA analysis (for selected specimens)

Ecozones of the Nantahala and Pisgah (National Forest Service)

Spruce-Fir: The overstory is predominantly red spruce and Fraser fir, with a low diversity of other canopy trees; low to moderately diverse herb layer; and high bryophyte, moss, liverwort diversity. A distinct bird community exists including the red crossbill. Northern flying squirrel, spruce-fir moss spider and rock gnome lichen may be present.

Northern Hardwood: Typical canopy species include yellow birch, sugar maple, and beech. Hobblebush and red elderberry are distinctive in the shrub layer. Rhododendron is common on some sites; herb layer can be diverse, often with ramp patches. This is generally a closed-canopy habitat with wind and ice as major disturbance factors. Northern flying squirrel, ruffed grouse and golden-winged warbler may be present.

High Elevation Red Oak: Predominantly red-oak overstory, occurring on high elevation ridges. Wind and ice are typical disturbance events that shape the canopy structure. Some occurrences exhibit stunted tree growth from exposure to wind and ice. In the past, American chestnut was predominant in this ecozone and was replaced primarily by red oak. Shrub density is variable with deciduous azaleas, including the endemic pink-shell azalea. Pennsylvania sedge is occasionally abundant.

Acidic Cove: High forest canopy with tulip poplar, hemlock, yellow buckeye, black birch typical in the overstory. Tall rhododendron and dog hobble are common midstory species. Seeps are common as these areas are often associated with springs and streams. Bryophytes are extremely diverse in this ecozone.

Rich Cove: High tree diversity in the overstory including tulip poplar, basswood, and sugar maple. Silverbell and cucumber tree occurs as a midstory tree species. The shrub layer is sparse and the herbaceous layer is highly diverse, including American ginseng (harvest is strictly regulated and is altogether prohibited during Appalachia NAMA 2023), black cohosh and bloodroot among many others. Salamander diversity is high due to mesic conditions and the high amount of moss-covered woody debris. Rich coves may be distinguished from acidic coves by the absence of the heath shrub layer (such as rhododendron).

Mesic Oak: Diversity of oak trees in the canopy including red and white oak, with a diversity of hickories; red maple and tulip poplar present where disturbance has occurred. More tolerant red maple occurs in the midstory

[Cont'd]

because fire has been excluded; low shrub density; herbaceous diversity is variable but can be high, especially on basic substrates. Dogwood is common in the midstory. Wood thrush and ovenbird are likely to be present, among many other bird species. A high amount of hard mast production occurs that benefits wildlife. American chestnut was a common component prior to the blight.

Dry-Mesic Oak: Chestnut oak, white oak, white pine and a variety of hickories are typical canopy tree species. The midstory tends to have huckleberry and other deciduous heaths; white pine and red maple occur in the midstory where fire has been excluded. Herbaceous diversity is variable but tends to be sparse. There is a high amount of hard mast production for wildlife. American chestnut was a common component prior to the blight.

Dry Oak: Chestnut oak, scarlet oak and black oak are predominant overstory species. Many areas exhibit an open canopy structure due to mortality from oak decline, lower site productivity and higher fire frequency. The midstory is typically dense with mountain laurel and lowbush blueberry; low herb density under dense midstory, but higher (grasses, legumes, and asters) where the midstory is sparse. This ecozone generally occurs on rocky south and west-facing aspects with thin soils; snags frequent. American chestnut was a common component prior to the blight.

Pine-Oak Heath: Pitch pine and/or table mountain pine are overstory components, commonly with chestnut oak, black oak and scarlet oak. Midstory and herbaceous layers are similar to the dry oak ecozone. This ecozone occurs on rocky south and west-facing aspects and ridges with thin soils. American chestnut was a common component in this ecozone prior to the blight.

Shortleaf Pine: Shortleaf pine is dominant in the overstory, or codominant with southern red oak, blackjack oak and a variety of other hardwoods. Blueberries are common in the shrub layer, along with mountain laurel. The herbaceous layer is sparse in the absence of fire but very diverse where fire has occurred. White pine may be aggressive on some sites.

Floodplain Forest: Proximity to water defines this ecozone and in the case of floodplain forest, the potential for flooding is a key characteristic. Sycamore, silver maple, willow and ash trees are common in the overstory of floodplain forests; riparian forests may have a variety of tree species, including hemlock. Beavers have historically influenced the structure of these forests through dam construction.

2023 Appalachia NAMA Forays

1. Early Bird Foray, Thursday 1:00 - 3:30pm

Self Guided | 2300' elevation (on Kanuga grounds)

Enjoy a self-guided tour of the local area by taking the trail around Kanuga Lake. This trail is approximately one mile long and is a nice easy stroll around the lake. Associated ecozones are Mesic Oak, Acid Cove, Shortleaf Pine, Dry-Mesic Oak and Dry Oak.

2. Beginners Foray, Friday 9:00 - 11:15am

Half Day | 2300' elevation (on Kanuga grounds)

Part of the Doug Stirling trail, which is accessible on foot from Kanuga Conference Center. This path meanders creekside, in a pine-dominant pine-oak forest with some massive older pines present at the creek's edge. This out-and-back trail starts out at the north end of Kanuga Lake and then crosses the road to the other side of the lake, running along a creek. This trail is flat and very easy for people with all levels of hiking ability. Associated ecozones are Shortleaf Pine, Dry-Mesic Oak, Dry Oak and Mesic Oak.

3. Game Lands with Scenic Cascade, Friday 8:00 - 11:15am

Half Day | 1000' elevation with 100' gain

This special foray is restricted to 15 participants because access to this area of the forest is restricted with a gate, making this trail obscure; few go here to look for mushrooms. The starting point of this out-and-back trail is an old long-abandoned log cabin. The trail then winds along a creek that ends at a stunningly beautiful scenic cascade at a rocky cliff. The length of this trail is 0.75 mi each way, for a total of 1.5 miles and it is considered relatively easy. The trail does narrow at times but at certain points it does allow for people to spread out and foray. The forest is hardwood-dominant mixed pine-oak, in addition to Acid Cove with mesophilic acidic soil supporting acid-loving plants such as rhododendron, poplar and birch. No bathrooms available at this location.

4. Picnic Area by the Creek Friday 8:00am - 11:15am

Half Day | Starting at 2300' going up to 3250'

Mature forest adjoining an old growth area, predominantly acid cove, mesic oak and pine-oak heath ecozones, with mostly mixed hardwoods including some hemlock. This trail follows a creek, so the length of the trail is typically moist and is very good for mushrooms. Parking is at a picnic area that leads into a hike into the woods. The trail is a lollipop loop in shape, but we will be foraying as an out-and-back trail since the whole loop cannot be walked in one 2-hour foray. Hiking is moderately challenging one side of the loop and more strenuous hiking on the other. This is a good location for diverse fungi.

5. Game Lands at Higher Elevation, Friday 8:00 - 11:15am

Half Day | 2100' elevation and steep grades

Acid cove, with some stands of intact mature hemlock on the interior trails with a cascade at one point. There is one enormous pine tree. The terrain is uneven and parts can include hopping across rocks. If the water is high, you may have to get your feet wet in order to reach the tree. The loop is 3 miles, so it's recommended to do the bottom of the loop and the right side of the loop are the best areas (the left side of the loop has no mushrooms). Avoid the later part of the trail across the rock hop segment because it can be dangerous, especially if the water is high. Associated ecozones are acid cove, floodplain, dry mesic oak. No bathrooms available at this location.

20. Conservancy 2, Friday 8:00 - 11:30 am

Half Day

Late-breaking offer to foray at very special Conservancy property that has never before been fungally surveyed, featuring highly intact Natural Heritage elements that led to acquisition by the Conservancy. This unique opportunity became available at the last minute through personal connections developed by Asheville Mushroom Club, so as of this writing the site has not been scouted but we could not resist adding it to our foray roster. Bathrooms not available.

6. High Elevation Foray, Friday 8:00am - 4:15pm

Full Day | 5100' to 5300' elevation

The foray boasts the highest elevation at this event. This site supports a unique habitat that typically only exists in more northern locales. It is host to isolated populations of plants and animals, many of which are globally rare. Red spruce, high-elevation red oak, and mixed northern hardwoods are present here. Part of this hike will traverse through designated wilderness, meaning the area is protected from logging. Because of the high elevation, the temperature on this foray will be cooler than others, so please be prepared for a strenuous hike at higher elevations. Be prepared for rugged terrain and a more rustic site with no bathrooms or facilities available.

7. NC State Park, Friday 8:30am - 4:15pm

Full Day | 2100' to 2800' elevation

Frank and Laurie from the Asheville Mushroom Club will be leading this foray, which should only be attended by people in very good physical shape, as the area is very steep and there will be significant and steady uphill slopes. Located in Transylvania County, near the tripoint, where North Carolina, South Carolina, and Georgia meet, this ecoregion is considered a temperate rainforest, receiving between 80 to 100 inches of rain annually. The park has 26 waterfalls, plunging river gorges, steep precipices, and hosts extraordinary biodiversity. Its novel location, at the top of the Blue Ridge escarpment and in the Savannah River drainage means this area contains

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some exceptional plant species, such as *Trillium discolor* that is found nowhere else in the world. Both the east and the west side of the park will be visited on this all-day foray. The first part of the day will be on the west side of the park, and then the group will meet back at the Visitor's Center for lunch, an LEED certified building with bathrooms and picnic tables. They will then head to the east side of the park (a 30-minute drive) to continue the second part of the foray. Expect up to 5 hours of foraging and hiking.

8. Hendersonville State Forest, Friday 1:00pm - 4:00pm

Half Day | 2150' to 2300' elevation

Experimental forest located in the same county as Kanuga Conference Center. The ecozones are pine-oak and acid cove, characteristic of this mid-elevation mesophytic mountain region. This forest also contains the ecozone called rich cove, meaning there is a high herb layer on the forest floor, which can make it slightly more difficult (yet, perhaps more fun) to find mushrooms underneath the detritus. The area is north-facing so it is darker and moister than most locations. Most of the trails here are short loop trails, so you can easily choose your own adventure on this foray. Easy to moderate hiking that is suitable for beginners and hikers of all skill levels.

9. Conservancy 1, Friday 1:00pm - 4:15pm

Half Day | 2,460' elevation, first 2 miles uphill

This nature preserve contains a mix of forest types with mostly mature trees including pine-oak-heath and acid cove. The picturesque forest is perennially wet because there are many seeps and intermittent drainages throughout the property. This wet location is also dotted with streams, including the headwaters of several creeks that comprise the French Broad River basin. Overstory trees include yellow poplar, red maple, black birch, eastern hemlock, pignut hickory and white ash, with an intermittent understory of rhododendron. Associated ecozones are Pine-Oak Heath, Shortleaf Pine and Dry-Mesic Oak. This trail is very strenuous, it is 0.75 mile straight uphill and because of special permitting and limited parking, there are only 15 people allowed on this foray. No bathrooms at this location.

10. SC State Park, Friday 12:30pm - 4:30pm

Half Day | 1,300' elevation

One of the few forays offered in the state of South Carolina, this area is situated at the base of the Blue Ridge escarpment. This hike contains a few trails near perennial water sources. This park is host to a collection of beautiful mature trees, with associated ecozones of Dry-Mesic Oak and Shortleaf Pine. One trail is predominantly oak-hickory, and features mixed

[Cont'd]

hardwoods. Copperhead snakes have been seen at this park so please exercise caution on the trails here. Please note there is plenty of parking, but there is a \$5 per car entrance fee.

21. Conservancy 3, Friday 12:30 - 4:30pm

Half Day

Late-breaking offer to foray at very special Conservancy property that has never before been fungally surveyed, featuring highly intact Natural Heritage elements that led to acquisition by the Conservancy. This unique opportunity became available at the last minute through personal connections developed by Asheville Mushroom Club, so as of this writing the site has not been scouted but we could not resist adding it to our foray roster. Bathrooms not available.

11. State Forest, Saturday 8:30am - 11:15am

Half Day | 2,700' to 2,900' elevation

Participants will have their choice of two different locations on this foray, both of which are rated as moderate difficulty. For the first location, the forest is dominated by mostly mixed upland hardwoods and patches white pine. Yellow-poplar, red maple, and black birch are predominant in north-facing areas. Oaks dominate in more south-facing areas. Mountain-laurel and rhododendron occur in patches and around drainages. The terrain is gently rolling to moderately sloped, with aspect being generally north-facing, east-facing, or south-facing. A powerline right-of-way is on the eastern edge of this area. For the second location, the forest cover is dominated by oaks in the western portion and white pine in the eastern portion. The midstory and understory is dominated by mountain-laurel and rhododendron in drainages and along a creek that bisects the unit. Five 2-acre patch cuts from 2018 occur in the northeastern portion of the unit. Terrain is moderately sloped to rolling. Associated ecozones are short leaf pine and acid cove amongst interspersed mature hardwoods. No bathrooms at these locations.

12. Appalachian Bog, Saturday 8:00am - 11:15am

Half Day | 3,300' elevation

Exceptional southern Appalachian bog in a relatively flat valley located at moderate elevation. One of the easiest trails in the entire lineup of forays because there is no incline and the footing is generally good, making it accessible to hikers of all skill levels. Some small stream crossings and tangled roots are the only obstacles to be expected. Natural mountain bogs such as

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this are one of the rarest and most sensitive habitats in the southern Appalachian region. The bog contains a high concentration of endangered plants, which can be seen from the boardwalk paths that stretch out over the wetlands. Crystal clear brooks, wildlife meadows and scenic fern-filled woods should be expected here, as well as multiple *Cordyceps* species and other fungal entomopathogens. Please exercise caution when hiking these trails, because beautiful but venomous timber rattlesnakes are encountered in this area.

13. Headwaters Valley, Saturday 8:30am - 4:30pm

Full Day | 4,000' elevation

This site is known as the “Yosemite of the East,” with extensive low-gradient streams surrounded by peaks rising 800' above the valley floor. This is an older area with an enormous number of waterfalls where many old-growth trees remain. If the group is able to hike for a while and make it to the area known as schoolhouse falls, they will encounter a spectacular sight including natural grottoes backing the falls that contain a number of rare species, including filmy ferns. Hiking on this trail is known to be strenuous so participants must be in good shape. Please beware of timber rattlesnakes in the area. No bathrooms at this location.

18. Ton-A-Wandah Campground, Walk A, Saturday 9:15 - 11:30am

Half Day | Self Drive/Carpool

Located only 4 miles from Kanuga, this residential summer camp, nestled within 365 acres of mountainous terrain, is home to a variety of habitats from mixed broadleaf forest to dense and old-growth rhododendron. This is the perfect location for those attendees who wish to avoid longer drives and who would prefer to use their own vehicles. Self-driving/carpooling is required. Parking is in a grass field, which will be accessed via a gravel road through the camp property. The walk ends where it started. Bathroom access is TBA.

14. County Line Riparian Forest, Saturday 9:30am - 4:15pm

All Day | 2,450' to 2,700' elevation, cost \$25 for Lunch

This foray is \$25 and includes a farm-to-table lunch with locally cultivated fungi. The afternoon portion will explore a mosaic of riparian forest types, including hemlock forest and acidic cove with more than 50% of canopy cover of eastern hemlocks mixed with scattered pitch pine. The understory is composed of rosebay rhododendron and the ground layer is dominated by acid-loving herbs. Much of the hemlock is impacted by the hemlock

[Cont'd]

wooly adelgid. Fraser's magnolia is common in the understory, and the shrub layer is dominated by rosebay rhododendron and dog-hobble. Acid-loving herbs occur beneath the shady understory. Footing is very uneven and rocky and the trail is somewhat eroded, making this trail challenging. Sometimes this trail has horse traffic, so always exercise caution and yield to equestrians at all times. No bathrooms at the afternoon portion of this foray.

15. NC/SC State Line Riparian Forest, Saturday 8:30am - 4:15pm All Day | 1,900' elevation

An all-day foray in a mature pine-oak forest that contains several species of large trees and is a less-frequently-accessed site for mushroom hunting. This out-and-back trail runs along a pristine river leading to a waterfall, with beautiful views. Trail is not easy; it climbs up to 2100' elevation then drops down to get back to where the waterfall is located at 1850'. This forest is near Lake Jocassee, which was named in "50 of the World's Last Great Places" and was also called a "destination of a lifetime," by National Geographic. Associated ecozones are Mesic Oak, Acid Cove, Dry-Mesic Oak. There is one bathroom in the parking lot and no other facilities for the rest of the day.

16. State Forest, Saturday 1:00pm - 4:15pm Half Day | 2,800' to 3,000' elevation

Participants will get a choice of two different locations. One takes your van through a gated road where regular vehicles are usually not allowed access. For participants on the first van, the forest cover is dominated by white pine and mixed upland hardwoods, such as oaks, hickories, yellow-poplar, and red maple. The midstory and understory are composed of sourwood, red maple, mountain-laurel, and rhododendron. The ecozone is predominantly Shortleaf Pine. Terrain ranges from gentle to moderately sloped, with aspects generally west-southwest facing or southeast facing. There are no bathrooms for this area. For the second van, the forest cover is dominated by mature planted white pine for part of the area and mixed upland hardwoods, such as oaks, hickories, yellow-poplar, and red maple, north of the trail. The midstory and understory are composed of various shade-tolerant hardwood species and some heath shrubs like mountain laurel. Associated ecozones are Shortleaf Pine and Acid Cove. Terrain is mostly gentle to rolling, with some moderate slopes. Aspect is generally east or northeast facing.

17. State Park with Special Permission, Saturday 12:30 - 4:30pm

Half Day | 1,340' to 1,650' elevation

This dramatic boulder-field forest contains mixed hardwoods with a significant canopy of oak and hickory and boasts a view of a scenic mountain lake and a scenic cliff above this forest that is frequented by rock climbers. Associated ecozones are Acid Cove, Mesic Oak, Rich Cove, Pine-Oak Heath and Dry Oak. Trail is a lollypop loop where people will be free to explore on either side of the loop. Difficult hiking makes this trail appropriate for experienced hikers only.

19. Ton-A-Wandah Campground, Walk B, Saturday 1:30 - 4:30pm

Half Day | Self Drive/Carpool

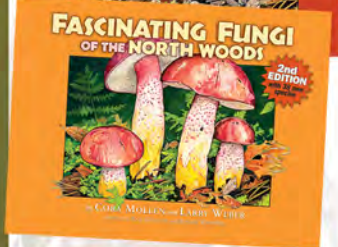
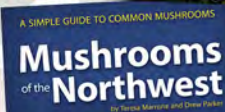
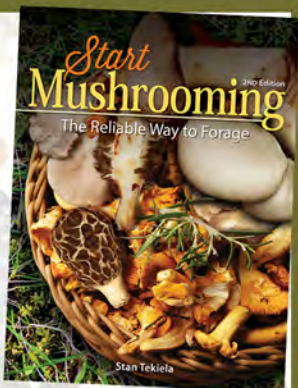
Located only 4 miles from Kanuga, this residential summer camp, nestled within 365 acres of mountainous terrain, is home to a variety of habitats, from mixed broadleaf forest to dense and old-growth rhododendron. This is the perfect location for those attendees wishing to avoid long drives and who would prefer to use their own vehicles. Self-driving and/or carpooling is required. Parking is in a grass field, which will be accessed via a gravel road through the camp property. The walk starts and ends at a beautiful cascading waterfall, where there will be nearby bathroom (Port-O-Potty) access.



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