The North American Truffler

Journal of the North American Truffling Society

Volume 42, Issue 1 **Winter 2025**

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Announcements

Don't miss it! The 2025 NATS Potluck Celebration is upon us!

When: February 8, 2025 at 6 pm

Where: Corvallis Community Center, 2601 NW Tyler Avenue

Bring: A favorite dish w/ingredients list to accommodate restricted diets. Punch and tea provided, bring your own tableware if you wish.

NATS Winter 2025 Featured Speakers

January 7, 2025: Dr. Robert Mohr

Our Story- Okanagan's First Truffles

Join NATS for its January 7, 2025, Speaker Meeting, with Dr. Robert Mohr.

Dr. Robert Mohr is a retired surgeon who was first introduced to truffles in an Italian restaurant and thought it would be a worthwhile challenge to cultivate them.

This was the beginning of a 16-year journey, full of mistakes, coupled with academic and practical learning that finally resulted in the first commercial harvest of *Tuber melanosporum* in the Okanagan Valley of British Columbia.

Dr. Mohr will trace the process he and his wife, Andrea, undertook to reach this point and will provide ample time for questions and answers.

NATS 2024 Winter Speakers

February 8, 2025: Dr. Dan Luoma
True Tales of Truffle Trivia

The 2025 NATS Potluck Speaker will be our own Dr. Dan Luoma! Dan will share stories and photos and insights from his **centuries** of truffle research. But don't worry, he'll make it short, allowing you the maximum amount of time to eat delicious potluck dishes and socialize with your delightful NATS friends!

Dan is a retired professor from the Department of Forest Ecosystems and Society at Oregon State University. He was employed with the College of Forestry at OSU since 1984, starting as a Graduate Research Assistant. Dan pursued research on the diversity of ectomycorrhizal fungi in natural and managed forests of the Pacific Northwest.

Dan has also conducted research on, and developed monitoring protocols for, commercially harvested forest mushrooms. Dan has particular expertise with those fungi that produce truffles. He has taught forest mycology through the Siskiyou Field Institute and Southern Oregon University and general mycology through the Department of Botany and Plant Pathology at OSU.

March 4, 2025: Christopher Bivins
The Genetics Behind the Fungal Fantasies of Woodrats

Do you spend a lot of time wondering what kinds of fungi woodrats prefer? If so, you won't want to miss the March 4, 2025 NATS meeting where speaker Christopher Bivins will return to give participants a comprehensive picture of the kinds of fungi these rodents consume. Since last visiting NATS, Christopher has sequenced over 400 individual woodrat fecal pellets. Additionally, he's compiled a review of various truffle taxa collected from the same regions as the fecal pellets. Find out what he plans to do with this pile of data in the future!

Christopher completed work for his master's degree at Fresno State. He is currently a Ph.D. student at UC Merced where he works on a number of fungal ecology projects in the Sierra Nevada Foothills.

NATS's Busy Fall, Mushroom Shows and All!

Fall 2024 saw NATS present at multiple mushroom shows and events. **Yachats** was a successful endeavor; the show, organized by the Yachats Chamber of Commerce, ran very smoothly. They were grateful we were there and fed us well! Thanks to those who helped: Matt Trappe, Kim Kittredge, Dave Pilz, Joyce Eberhart and Dan Luoma all did guided walks; Lynn Moore, Sloan Aagard, and Sarah Colby tended the booth; Sylvia Donovan made the fantastic white truffle cream cheese to share with a delighted public. Jim Trappe and Jamie Ure were a hit with the book signing.

The **Mt. Pisgah Mushroom Festival** was also very nice as usual. This one day show was well-attended and the mushroom and truffle displays were fantastic! Thanks to Joyce Eberhart, Marilyn Hinds, Dave Pilz, Sarah Colby, Dan Luoma, and Sarah Shay who all tended the booth.

NATS also had a booth at **Mushroom Day at Beazell Memorial Forest** for the first time this year. This quiet, small, family-oriented event presented a great opportunity to further the education part of NATS's mission. We gained several new members and look forward to having a presence there next year as well.

Lincoln County Mycological Society Hosted 50th Anniversary Mushroom Show

Report by Kim Kittredge

The Lincoln County Mycological Society hosted its 50th anniversary North Coast Mushroom Show in Gleneden Beach, Oregon on December 15th. The event was free and open to the public.

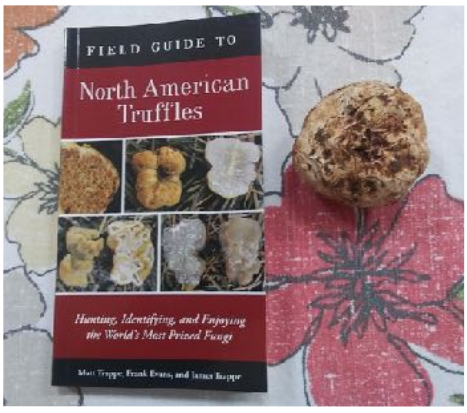
The Lincoln County Mycological Society, also a non-profit, was formed by Freda Holloran, who is now in her 90's. Her daughter Kimmarie has taken the reins and organized the event.

The centerpiece of the event for this "end of season" North Coast Mushroom Show were tables displaying freshly picked fungal specimens from local forests, yards, fields, and parks. Included were colored notecards offering the fungal genera and species, as well as its edibility or inedibility. Also available were craft booths, local forays, food, and refreshments. Two delicious mushroom soups were prepared, one milk based and one miso based. Both were fantastic!

A particularly beautiful mushroom on display was a pink *Hygrophorus purpurascens* with darkened imprints of needles on the cap. Being December, there were not as many agaricoid genera, however there were plenty of matsutake and boletes. And *Rhizopogon occidentalis* was found in the parking lot!

Throughout the day, knowledgeable and experienced members of the LCMS and Cascade Mycological Society were on hand, ready to answer questions about our local fungi, or help identify specimens brought in by the public.

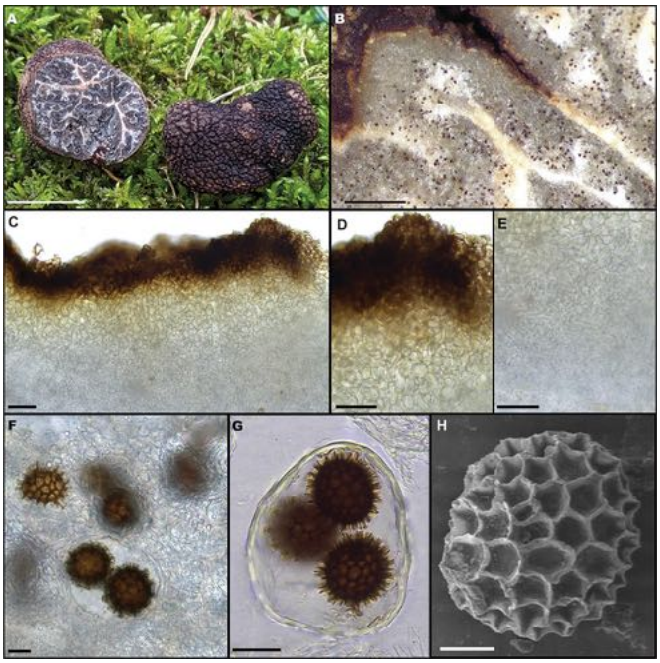
The North American Truffling Society had a booth, and Sarah Colby brought fresh *Tuber oregonense* for people to smell, touch, and learn more about mycorrhizal fungi. One of her specimens was huge! Mysti Weber prepared a delicious truffle cream cheese spread, which was offered on gluten-free rice crackers. Most people had never tasted a truffle before, so having both the truffle spread and fresh truffles to smell was welcomingly received by the public. Thank you, Sarah, Kim, and Mysti!



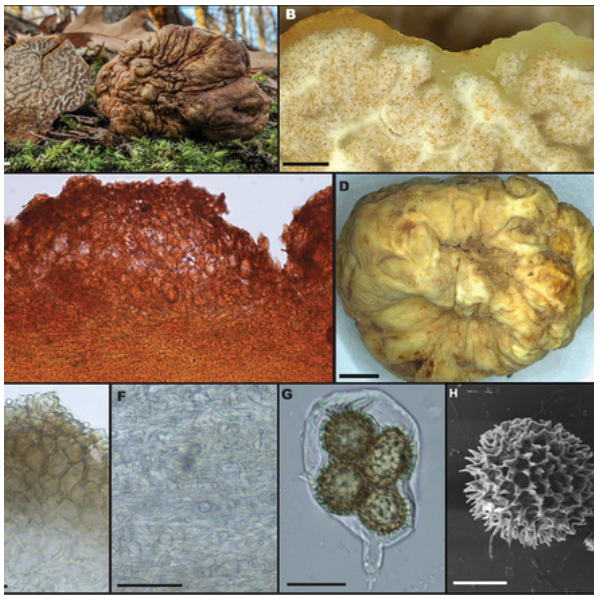
Left: Kim Kittredge and Sarah Colby at the NATS booth. Right: Massive *T. oregonense* found by Sarah Colby's dog.

New truffle paper published by NATS Pavelek Scholarship winner Ben Lemmond!!

A new truffle paper has been published by Ben Lemmond, a 2022 Pavelek Scholarship winner. In the paper, he and his collaborators described two new culinary truffles from the east coast, including one they named *Tuber canirevelatum* "in honor of the truffle dogs who have been essential in the discovery and harvesting of truffles." Ben says that it's a really delicious smelling truffle, too. The paper is open access at https://doi.org/10.1080/00275514.2024.2407755. Anyone, regardless of academic affiliation, can read it, so be sure to check it out!



Tuber canirevelatum, sp. nov. A. Ascoma and gleba. B. Gleba and peridium. C. Peridium. D. Ectal excipulum composed of large swollen cells. E. Medullary excipulum composed of interwoven hyphae and small swollen cells. F. Gleba and asci. G. Ascus. H. Reticulated ascospore. Bars: A = 4 mm; B = 1 mm; C = 50 µm; D = 50 µm; E = 50 µm; F = 20 µm; G = 25 µm; H = 10 µm.



Tuber cumberlandense, sp. nov., and T. canirevelatum, sp. nov., ascospore dimensions. A. Length, width, and Q (L/W) of Tuber cumberlandense, sp. nov., ascospores. B. Length, width, and Q (L/W) of Tuber canirevelatum, sp. nov., ascospores.

Special thanks to Hilary Rose Dawson for forwarding information on this fascinating paper!

Carnivorous Squirrels Documented in California
First Evidence of Ground Squirrels Hunting and Eating Voles in Bay Area

by Kat Kerlin

A ground squirrel with cheeks stuffed with nuts, seeds or grains, is a common sight. But a new study provides the first evidence that California ground squirrels also hunt, kill and eat voles. The study, led by the University of Wisconsin-Eau Claire and the University of California, Davis, is the first to chronicle widespread carnivorous behavior among squirrels.

Published in the Journal of Ethology, the study fundamentally changes our understanding of ground squirrels. It suggests that what was considered a granivorous species actually is an opportunistic omnivore and more flexible in its diet than previously assumed.

The observations occurred in 2024 — the 12th year of the Long-term Behavioral Ecology of California Ground Squirrels Project conducted at Briones Regional Park in Contra Costa County. Out of 74 observed interactions with voles between June and July, 42% involved active hunting of these small rodents by ground squirrels.

"This was shocking," said lead author Jennifer E. Smith, an associate professor of biology at UW-Eau Claire who leads the long-term ground squirrels project with Sonja Wild of UC Davis. "We had never seen this behavior before. Squirrels are one of the most familiar animals to people. We see them right outside our windows; we interact with them regularly. Yet here's this never-before-encountered-in-science behavior that sheds light on the fact that there's so much more to learn about the natural history of the world around us."

Wild has observed hundreds of squirrels in nature and yet, even for her, when the undergraduate students came in from field work and told her what they had witnessed, she said, "No, I'm not sure what you're referring to." Then she watched the video.

"I could barely believe my eyes," said Wild, a postdoctoral research fellow in the UC Davis Environmental Science and Policy department. "From then, we saw that behavior almost every day. Once we started looking, we saw it everywhere."

Through videos, photos and direct observations at the regional park, the authors documented California ground squirrels of all ages and genders hunting, eating and competing over vole prey between June 10 and July 30. The squirrels' carnivorous summer behavior peaked during the first two weeks of July, coinciding with an explosion in vole numbers at the park reported by citizen scientists on iNaturalist. This suggests that the squirrels' hunting behavior emerged alongside a temporary increase in the availability of prey, the study said. The scientists didn't observe the squirrels hunting other mammals. (cont.)

A California ground squirrel in Contra Costa County runs with a vole it hunted in its mouth. A study from UC Davis and University of Wisconsin-Eau Claire is the first to document widespread carnivorous feeding of voles by squirrels. (Sonja Wild, UC Davis)

A California ground squirrel eats a vole it hunted. (Sonja Wild, UC Davis)

(cont. from page 6)

"The fact that California ground squirrels are behaviorally flexible and can respond to changes in food availability might help them persist in environments rapidly changing due to the presence of humans," Wild said.

Smith added that many species, including the California ground squirrel, are "incredible opportunists." From raccoons and coyotes to spotted hyenas and humans, the flexibility these mammals apply to their hunting strategies help them change and adapt with the human landscape.

"Through this collaboration and the data coming in, we're able to document this widespread behavior that we had no idea was going on," Smith said. "Digital technology can inform the science, but there's no replacement for going out there and witnessing the behavior because what animals are doing always surprises us."

The researchers said many questions remain unanswered, including how widespread the hunting behavior is among squirrels, whether and how it is passed down from parent to pup, and how it effects ecological processes. The authors are also excited to return to the field next summer to see what impact, if any, this year's vole hunting may have on squirrel reproduction compared to the past decade.

Co-authors include Joey Ingbretson, Mackenzie Miner, Ella Oestreicher, Mari Podas, Tia Ravara, Lupin Teles and Jada Wahl of UW-Eau Claire and Lucy Todd of UC Davis.

Several co-authors conducted field work during their undergraduate studies. Their work was partly funded by the Ronald E. McNair Postbaccalaureate Achievement Program, Diversity Mentoring Program and Summer Research Experience for Undergraduates. Additional funding sources include the Swiss National Science Foundation and the Vicki Lord Larson and James Larson Tenure-track Time Reassignment Collaborative Research Program.

Voles Beware!

(The voles being consumed by squirrels in this study are California voles (*Microtus californicus*). Fortunately, there was no mention of our friend, the western red-backed vole (*Clethrionomys californicus*).)

NATS ZOOM Speaker Meeting Refresher

Our meetings this season will all be hybrid meetings, giving you an opportunity to attend in person or connect via Zoom. If Zoom seems a mystery, you are certainly not alone! Direct your questions to natrufflingsociety@gmail.com. The in-person meetings will be held in Room **2602** in Cordley Hall on the Oregon State University campus.

For the foreseeable future, NATS monthly speaker meetings will continue via Zoom. Meetings will usually start at 7:00 pm with a short business meeting. The speaker portion of the meeting will follow when our business portion is finished. The speaker will be introduced, fascinate us with their subject material, and linger for follow-up questions/discussions. In an effort to keep meetings short, speakers will present for 45 minutes or less. Zoom participants will be able to interact with audio or through the Zoom chat.

When you receive your monthly NATS email about upcoming meetings you will need to register ahead of time to attend via Zoom by clicking on the link in the email. Just fill in the short form to receive an invitation to that month's Zoom meeting. Our meetings are hosted through Oregon State University, and we will be very sure to keep them securely password protected to avoid uninvited guests.

Want to share your Zoom meeting invite with an interested non-NATS member?

Don't forget to let us know their name and email address so we will allow them into the meeting!

NATS iNaturalist Submission Process

If you have a specimen that you think should be accessioned, be sure to dry the truffles to prevent rot (see https://fundis.org/sequence/collect-dry/dry-your-specimens), and please email natrufflingSociety@gmail.com to learn if we can accept your specimens.

Additional information fields are provided to record your observations on iNaturalist. Such information is often crucial for specimen identification, so if possible, please include:

Collector's (real) name for the specimen label
Elevation*

Slope*

Overstory/understory trees & shrubs (scientific name preferred)

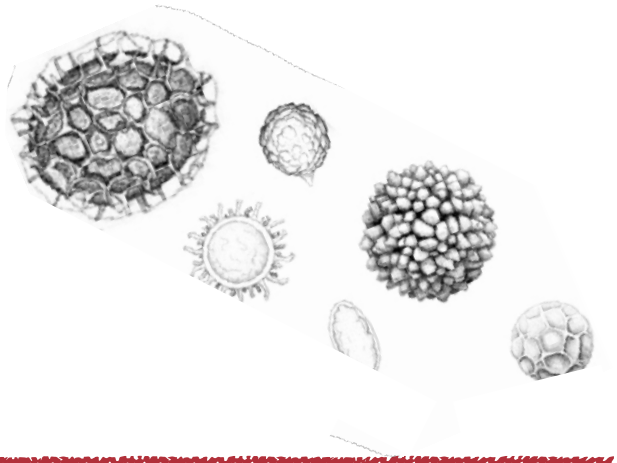
Substrate (moss, mineral soil, soil, wood, or litter)

Fresh notes such as colors and odor (using the notes section on iNaturalist)

*Estimates of these data are acceptable, however, **PLEASE** denote such instances.

WANTED

Creative suggestions for newsletter topics, comments about articles, your opinions about any truffle and/or fungi related topic. Send contributions to: newsletter editor Sarah Shay at natrufflingsociety@gmail.com



Information contained in *The Truffler* is to be used at your own risk. NATS Inc., its officers, editors, and members are not responsible for the use or misuse of information presented herein. If you are unsure of mushroom identification or safety, **please** consult an expert! In addition, attending and participating in a NATS event is entirely at your own risk. No person associated with NATS is either directly or indirectly responsible for anything that occurs during, or in transit to/from, a NATS event. Be responsible.

UNIDENTIFIED TRUFFLE?

What to do?

Visit www.natruffling.org for a printable field data card (hand-written submissions on awesome stationary certainly welcome). Please provide a description of significant characteristics of the habitat immediately surrounding the collection site, including the dominant trees and other vegetation species and slope/exposure. Also include site coordinates (GPS data, if available) and, when possible, color digital images showing a surface view and an interior section, cut top-to-bottom, through the center of the truffle.

Prior to submission, gently remove loose soil from the specimen. DO NOT scrub briskly or use a stiff brush; an intact outer skin is important for identification. Dry thoroughly using a food dehydrator OR by refrigerating samples in a loosely closed paper bag for a couple days. For faster drying, cut truffles in half to reduce moisture trapped by the outer skin.

Mail your dried specimen to:

The North American Truffling Society
P.O. BOX 296
CORVALLIS, OREGON 97339

If you mail a dried specimen, please let us know by sending an email to natrufflingsociety@gmail.com.

The North American Truffling Society, Inc.

The North American Truffling Society is a non-profit organization based in Corvallis, Oregon that brings together amateurs and professionals who are interested in fungi that fruit below ground. The mission of NATS is to enhance the scientific knowledge of North American truffles and truffle-like fungi, and promote educational activities related to truffles and truffle-like fungi.

NATS is the only organization of its kind in the world devoted to gathering truffles and enhancing our knowledge about them. Primary activities include educational meetings and truffle-collection forays. NATS members collect truffles worldwide, thereby contributing to our understanding of their habitat and range, identification and classification, and edibility. NATS specialists also provide truffle identification services.

NATS offers:

- Forays (field trips) to collect truffles.
- Monthly educational meetings (autumn through spring) on varied mycological topics.
- A periodic newsletter, "The North American Truffler: Journal of the North American Truffling Society", describing recent truffle finds, program meetings and other topics.
- An annual potluck dinner.
- The excitement of participating in valuable scientific research.
- New and interesting friends.

NATS welcomes new members. As a nonprofit, membership dues may be considered a tax-deductible donation for those who itemize their taxes. Dues may be paid by cash (in person) or by check (US Mail). If you pay by check, please retain your canceled check as your receipt for tax purposes. You can also pay online with a credit/debit card via Paypal at www.natruffling.org/renew.htm.

For further information on truffles and membership, contact NATS and START TRUFFLING!

Please return completed form (with check made out to NATS) to:

THE NORTH AMERICAN TRUFFLING SOCIETY, INC.
P.O. BOX 296
CORVALLIS, OREGON 97339
www.natruffling.org

Name(s):_____Phone:_____

Address:_____

City:_____State:_____Zip:_____Country:_____
(Province) (Postal code)

Email address(es):_____

Annual membership fees: $20 first family member, $10 each additional family member in the same household over the age of 18 years. Businesses: $20. Individuals/Businesses from other countries: $20, **payable in US funds.**

Annual contribution categories: Donor: $15-$49; Contributor: $50-$499; Sustaining $500+