



The Fungal Gazette

October 2016

Newsletter of the Central New York Mycological Society



www.pnwmushroomfest.org

This month brings us the 8th Annual Vince O'Neil **Mushroom Festival** at **Beaver Lake Nature Center** from 1-5 pm.

We need volunteers again just like last year (everyone did a great job!):

*someone to help Paula at 8:00 am

*someone to sell T-shirts & raffle tickets, sign up new members and talk to people about mushrooms from 1-5pm! This can be split into 2 shifts if it's easier. (As of press time we have 3 volunteers, but all help is still welcome!)

Anyone interested in helping will be welcomed and appreciated! Please contact me at jds88@cornell.edu or 607-749-2915 to sign up.

The Festival will feature guided mushroom walks, displays about medicinal mushrooms, mushrooms that glow, and how they grow. But wait, there's more! A raffle with mushroom-themed prizes, a mushroom scavenger hunt with prizes, food, and maybe some new club tee-shirts if they're done in time! (A little forest fairy told me that mushroom growing kits are among the prizes and raffle items, and there will be a few for sale.) Marie Heerkens will also be there selling mushroom jewelry, artwork etc.

And as always, **please bring fungi for display and for identification**. It gives everyone a good reason to go hunting on Saturday (all collections are welcome - even from your front yard!).

September Recap

Tim Baroni provided a fun evening for our September meeting. His slides of uncommon Northeast mushrooms tested our knowledge. Dr. Baroni also provided some insight into his research theories about old and new world fungi. We had such a great turnout – over 30 people – that we had to move to a bigger room. Many thanks to Dr. Baroni!

The species list from the VanderKamp foray is quite long and will be sent out separately via email.

Our next meeting, on October 17th, features a favorite program – **Mycophagy** from mycochef and CNYMS President **Jean Fahey**. Always a yummy evening!

The next foray is at the **Salmon River Falls Unique Area** on October 23rd. **Directions:** From Route 81 take the Pulaski exit and head east on State Route 13 to Altmar. Turn onto County Route 22 at Altmar and go past the Salmon River Fish Hatchery to Bennett's Bridge. Continue north on County Route 22 and take a right turn heading east on Falls Road. The parking area is on the right about one mile up the road. **Note:** The trail at Salmon River is a little rough once you get away from the falls. Also, it can get crowded on Sun. afternoon. There is another parking area at the other end of the trail that people seldom use which may be better.

The last foray of the season will be at **Mexico Point** on November 6th. **Directions:** Take the Mexico exit (Exit 34) from I-81 N. Turn left onto Route 104 and drive into the Village of Mexico. At the traffic light at Academy Street (CR 16) turn right (there's a McDonald's and a FastTrack gas station at this intersection). The road will dead end at Route 104B. Turn right onto 104 B and take the first left onto

Mexico Point Drive. There will be a parking lot where the road takes a sharp turn to the left. (If you make it to the state park boat launch, you are on the wrong side of the creek.)

Any questions or input for newsletters contact:
Jean Fahey (President) at (315) 446- 1463 (after 9am)
Rick Colvin (Treasurer) at (315) 569-5771 or rcolvin@twcny.rr.com
Mark Griffen (Publicity) at mgriffen@twcny.rr.com
Julie Siler (Newsletter) at (607) 749-2915 or jds88@cornell.edu

2016 Calendar of Events

Meetings are on the 3rd Monday of the month at **7:30 pm**, room 334 Illick Hall at ESF on the SU campus.

Forays are on Sunday at **1:00 pm** unless otherwise announced. (If there is an all-day pouring rain or another hurricane, the foray will be held the following Sunday. If in doubt, call Jean Fahey to find out when the trip will take place.)

October 9th 8th Annual Vince O'Neil **Mushroom Festival** at Beaver Lake Nature Center. See you all there!!

October 17th Meeting at 7:30 pm, Illick Hall. **Jean Fahey** will do her very popular **Mycophagy** program for us once again!

October 23rd Salmon River Falls Foray

November 6th Mexico Point Foray

*After all these years . . . Membership in CNYMS is still only \$10. **Membership includes your newsletter - what a bargain!** If possible, it's easier and more efficient if members pay for 2 years at once by sending \$20 to: **Rick Colvin, 1848 Whiting Road, Memphis, NY 13112.***

Contact Rick or me if you don't know your membership status so you can keep the news and schedules coming!



The Gazette looks better in color, so send me your email address to get the electronic version.

Trees rely on a range of strategies to hunt for nutrient hot spots

<https://www.sciencedaily.com/releases/2016/07/160718160933.htm>



Unlike more widely known processes in tree biology, such as photosynthesis and water acquisition, the complex relationship between roots and fungi is only beginning to be understood, say the researchers.

On the surface, trees may look stationary, but underground their roots -- aided by their fungal allies -- are constantly on the hunt and using a surprising number of strategies to find food, according to an international team of researchers. The precision of the nutrient-seeking strategies that help trees grow in temperate forests may be related to the thickness of the trees' roots and the type of fungi they use, according to David Eissenstat, professor of woody plant physiology, Penn State. The tree must use a variety of strategies because nutrients often collect in pockets -- or hot spots -- in the soil, he added.

"What we found is that different species get nutrients in different ways and that depends both on that species' type of root -- whether it's thin or thick -- and that species' type of mycorrhizal fungi, which is a symbiotic fungus," said Eissenstat. "What we show is that you really can't understand this process without thinking about the roots and the mycorrhizal fungi together."

Tree species with thicker roots -- for example, the tulip poplar and pine -- avoid actively seeking nutrient hot spots and instead send out more permanent, longer-lasting roots. On the other hand, some trees with thinner roots search for nutrients by selectively growing roots that are more temporary, or by using their fungal allies to find hot spots. Eissenstat added that fungi form mutually beneficial partnerships with trees. The fungi receive carbon from the trees while helping trees acquire nutrients. Nutrient-gathering strategies in thin-rooted trees depend on their fungal partner, according to the researchers, who report their findings in the *Proceedings of the National Academy of Sciences*.

One type of thin-rooted trees, including maples, which teams with fungi called arbuscular mycorrhizas, tend to grow their roots to find nutrient-rich hot spots. Another type of thin-rooted trees, including oaks, relies on fungi called ectomycorrhizas, which are capable of producing wide-spreading strands -- hyphae -- to bring in nutrients.

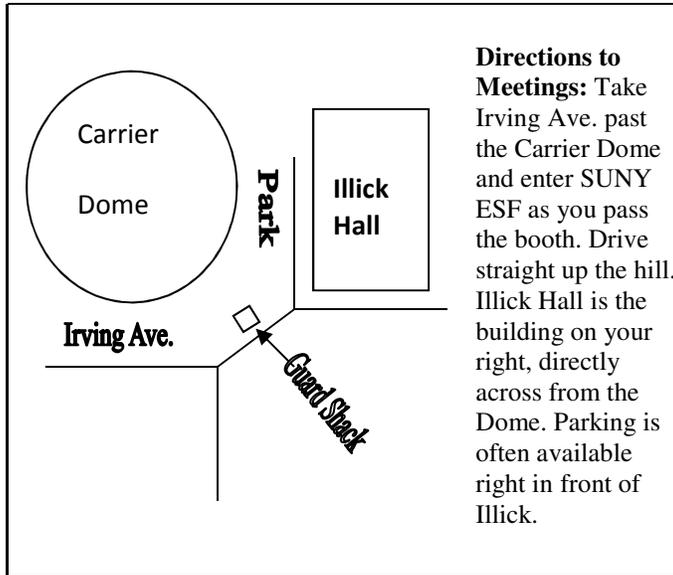
Trees approach their nutrient-seeking strategies similar to the way investors plan their speculations. "The investment analogy is used quite a bit in ecology because there is this whole idea of cost versus benefit," said Eissenstat. "If you're building thick roots it's really expensive to put on new pieces because they have to live a long time and if they can't get their resources back for that investment, it's not a wise strategy. But, if you're building thin cheap roots, then it's easier to build something and get it paid back quickly. They tend to die quickly, but are more opportunistic."

Understanding the function of roots and fungi could help researchers better predict the effect of climate change on forests, according to Weile Chen, doctoral candidate in ecology, Penn State, who worked with Eissenstat. "From our study we know that different tree species may have different foraging strategies, so if the species change for some reason, such as because the climate changes, the foraging of the whole system may change," said Chen.

The researchers used a common garden at Penn State's Russell E. Larson Agricultural Research Center to conduct the study. The garden consisted of 16 tree species planted in eight similar blocks. In each block, researchers planted six individual trees from a specific species. The trees, which are now between 10 and 18 years old, are planted about 3 meters apart with 5 meters of spacing between neighboring plots. The distance helps keep the root systems separate.

"The unique experimental setting is important, too, because, in the forest there are a lot of different species of trees, but their roots are all intertwined, so it's hard to know what is really going on," said Eissenstat. "We established, about 20 years ago, a garden where each tree species is in its own block, so now we can study in the field a species' roots and that helps us overcome a big research barrier." Unlike more widely known processes in tree biology, such as photosynthesis and water acquisition, the complex relationship between roots and fungi is only beginning to be understood, the researchers suggested.

"This is a beginning process and it's an incremental process and we're just starting to pull away the curtains and try to understand what's going on," said Eissenstat. "Some of these findings may be widely supported in other forests, or they may not be supported."



Scalloped Hedgehogs

<http://www.mssf.org/cookbook/hedgehog.html>

- 4 medium red potatoes, peeled and thinly sliced
- 1/4 cup heavy cream
- 1 pound hedgehog mushrooms, sliced (including stem)
- 1/4 cup chopped fresh chives or green onions
- Paprika to taste
- 1/4 cup milk
- 1/4 cup freshly grated Parmesan cheese
- 4 bacon slices, chopped

DIRECTIONS: In a buttered casserole dish, place half of the sliced potatoes and the cream. Add the sliced hedgehogs and cover with the remaining potatoes. Cover and bake in a preheated 375° oven for 25 minutes. Add the chives, paprika, and milk. Sprinkle with the cheese and bacon. Return to the oven, uncovered this time, and bake at 375° for another 20 minutes.

Serves 4 adults.

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Address Correction Requested