



The Fungal Gazette

June 2016

Newsletter of the Central New York Mycological Society



<http://www.medicalnewstoday.com/articles/288891.php>

May Recap

Mark and Benjamin provided some tasty beverages at our last meeting. Mark made chaga mead (and brought regular mead for comparison) and Benjamin made stout with dried chanterelles. They also provided some background about their crafts. Great job guys!

Although we found only a few morels at Morgan Hill (lack of rain?) we had a good turnout and a nice walk in the woods. Not to mention a good example of foray etiquette – or lack thereof. See the picture, and the lecture, later in the newsletter. We did find some cup fungi, chaga, Nematoloma, and Ganoderma.

Our next meeting features **Bernie Carr** talking about his trip to **Costa Rica**. The June foray will be on the 26th at **Nelson Swamp**. **Directions:** take State Route 20 east from the village of Cazenovia to Stone Quarry Road. Proceed south on Stone Quarry Road for 2.2 miles. The trail head is on the left.

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.)

June 20th Meeting at 7:30 pm, Illick Hall. To continue our travelogue of south-of-the border fungi, our own **Bernie Carr** will do a program on his recent trip to **Costa Rica** and the mushrooms he found there.

Note: The vote on the new T-shirt design will be at this meeting too.

June 26th Nelson Swamp Foray – site TBA

July No meeting in July. Foray is TBA at Wellesley Island at Jean's summer cottage.

August 15th Meeting at 7:30 pm, Illick Hall. **Jean Fahey** will present **Latin 101**. Come learn some helpful hints for remembering, and understanding, the Latin names of mushrooms.

August 28th Palermo Foray

September 19th Meeting at 7:30 pm, Illick Hall.
Program TBA

September 25th VanderKamp Foray

October 9th 8th Annual Vince O'Neil **Mushroom Festival** at Beaver Lake Nature Center. All members are needed to help! More information later.

October 23rd Salmon River Foray

November 6th Mexico Point Foray

How oyster mushrooms could aid treatment for autoimmune diseases

<http://www.medicalnewstoday.com/articles/288891.php>

In order to protect us from disease, our immune cells use proteins to punch their way into harmful cells and destroy them. Now, a new study has captured how a carnivorous mushroom engages in a similar process, allowing it to kill parasites. Researchers say visualizing this process brings us closer to understanding how it works in humans, potentially opening the door to new treatments for autoimmune diseases and other conditions.

The research team - co-led by Dr. Michelle Dunstone of Monash University in Melbourne, Australia, and Prof. Helen Saibil of Birbeck College in the UK - publishes their findings in the journal *PLOS Biology*. According to the background of the study, animals, plants, fungi and bacteria all use proteins to smash holes, or "pores," into harmful cells and kill them. "These proteins are able to insert into the plasma membranes of target cells, creating large pores that short circuit the natural separation between the intracellular and extracellular milieu, with catastrophic results," the authors explain.

Exactly how the proteins do this, however, has been unclear. In their study, the team set out to determine the hole-punching process behind a protein called pleurotolysin, found in the edible oyster mushroom, also known as the *Pleurotus ostreatus*. The oyster mushroom most commonly grows on trees and helps decompose deciduous types. It is a carnivorous mushroom; it feeds off parasites called nematodes, or roundworms.

Using both X-ray crystallography and cryo-electron microscopy, the researchers were able to capture the way in which pleurotolysin moves to stab its way

through parasites. They found the protein repeatedly folds and unfolds to punch holes in its target and kill it. "I never believed I'd be able to see these proteins in action," says Dr. Dunstone. "It's an amazing mechanism, and also amazing that we now have the technology to see these hole-punching proteins at work."

See the link for the video showing the pleurotolysin protein in action.

By uncovering the mechanism behind the protein's hole-punching technique, the researchers say it gives them ground to find ways to block this process or direct it to areas where it is required. The team says they believe a protein found in humans - called perforin - will behave the same way as pleurotolysin to kill its target cell, and if so, it could open the door to new therapies or prevention strategies for an array of diseases. For example, they say the technique could be used to reduce immune response in individuals with autoimmune diseases or to stop malaria from infecting the liver. In addition, the hole-punching technique could be applied to agriculture. The team says it could be used in crops and plants to help them ward off pests, which could lower the need for pesticides. Commenting on their findings, Prof. Saibil says: "We still have a lot of work to do before our ideas reach the clinic or industry, but seeing how the machinery works is an important step forward."

Don't Forget!

New T-shirt design wanted!



CNYMS is looking to update its tee-shirt design. If you or someone you know is interested please **send your idea to me** by **June 15th!** Members will vote at the June meeting.

Foray Etiquette



What is wrong with this picture from the Morgan Hill foray? I'm happy to report that the above mess was not the doing of anyone in our group (two of us saw the culprits). This is especially good news since our fearless leader Jean gave specific instructions to the group to NOT do this. As others sometimes read the Gazette online, it appears that some foray etiquette may be in order. The following is compiled from several sources:

1. Respect the rights of both private and public property. Do not trespass on private property - ask permission. Know the policies of federal & state parks and forests when hunting mushrooms in those areas.
2. Do not litter.
3. Do not trample plants and delicate environments.
4. Do not disturb animals or birds (especially ground nesting birds).
5. Use baskets with an open weave or mesh bags when harvesting mushrooms. This will aid in dropping spores back into the environment as you walk.
6. Harvest only what you can use. Leave some for others, for spores, and for wildlife (leave the tiny, the old and the wormy.) Some sources suggest picking only two-thirds of the mushrooms you find. Do not collect mushrooms from previously harvested areas.
7. When harvesting mushrooms for eating, cut them off close to the ground (if you have positive identification) to minimize the impact to the fungus.

Then cover the spot with some leaf litter to keep the area looking untouched.

8. If cleaning mushrooms in the field, spread the remains in an area away from the trails where they won't be a distraction to others. Better still, take them home and spread around your yard and grow your own mushroom garden.

9. Refrain from kicking over or trampling mushrooms that you do not intend to harvest.

And last but not least,

10. Leave the area as you found it. **Minimize the impacts to the actual fungus by not disturbing the ground habitat.** This means do not use rakes, dogs, pigs or other methods to dig mushrooms. Avoid removing dead wood unless this is necessary to identify a fungus. Be aware that woodlands often contain a rich variety of different species and may include some rare species.

Ironically, here is the more of the story:



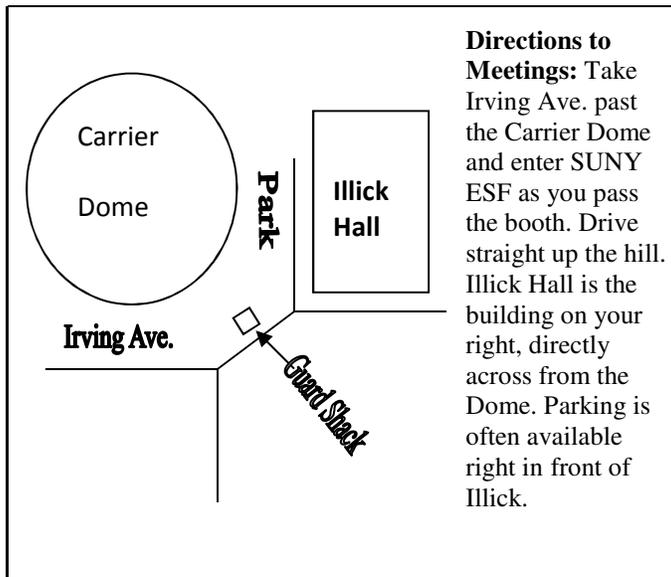
It's hard to see here, but yes, that's a very small morel they missed!

*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.



Oyster Mushroom Sauté

<http://www.foodnetwork.com/recipes/bobby-flay/oyster-mushroom-saute-recipe.html>

3 medium leeks
 2 teaspoons olive oil
 1/2 cup Johannesburg Riesling
 1/2 red bell pepper
 1 quart fresh oyster mushrooms
 1 package baked tofu
 1 teaspoon tamari, diluted with 1/2 teaspoon water
 Grated hard cheese, such as Parmesan, Dry Jack, or Romano, optional

Clean and slice leeks. Heat olive oil in sauté pan, add leeks when hot, and sauté for about 10 minutes. Add a splash of Riesling if leeks begin to stick to the pan. Clean and chop pepper and mushrooms, and dice the tofu. Add tofu to pan, splash of wine, and cook for a few minutes, then add the oysters, followed a few minutes later by the pepper. Add wine as needed. In last few minutes, add the tamari. Serve over rice, sprinkled with hard cheese.

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Address Correction Requested