

MushRumors

Newsletter of the Northwest Mushroomers Association

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March 2019

Survivors Banquet: Saint Patrick's Eve!

On Saturday, March 16, Northwest Mushroom Association is holding its annual spring gathering, aptly named the Survivors Banquet. This is a great opportunity to savor delicious food, socialize, take home a unique mushroom-inspired gift won during the competitive raffle, see gorgeous and informative fungi slides curated by Fred Rhoades, and participate in the annual membership business meeting, a very important part of being a member.

It's a potluck, so bring your own plates and utensils along with your tasty dish to share.

The banquet will be held at the YWCA, 1026 N. Forest St, starting officially at 5:30 PM with socializing

and appetizers for a half hour. We've changed our venue due to growing membership. The potluck starts at 6 PM. After feasting, the Annual General Meeting begins at 6:30. Some agenda items are forays for the coming year, changing the usual annual spring camping trip to smaller "pop-up" forays to take advantage of fungi blooms, and upcoming speakers. After the general meeting, the raffle takes place. Clean-up should start at 8; please join in.

Members are encouraged to arrive at 5 PM to help with preparing the room for the 90+ members expected to attend. Volunteers are needed for the many tasks involved: tables and chairs set up, food organization (with labels, especially if your dish contains mushrooms), raffle items organized and



raffle tickets sold, and projector set up for the slide show. And last, but not least, the space we used must be cleaned up afterwards: supplies boxed up, leftover food taken home, tables and chairs folded back up. This is our first time using the wonderful YWCA space so we hope to leave it in excellent shape.

Raffle items can be mushroom related but don't have to be. The raffle is often a high point of the evening, since gifts can be "snatched" up to three times before being owned. We have had years of some of the most delicious home-made produce, dried mushrooms, fungi-related pottery, resource books, textiles, and many beautiful hand-made items, available during the raffle. Please go easy on the junk-shop finds.

Bring your mushroom kitch to DONATE to the popular banquet mushroom raffle! Your thoughtful items make the raffle a fun success.



The Survivors Banquet gives us a chance to reconnect in the new mushroom year and get enthused about a fresh year of mushrooming. We're hoping 2019 will be the best yet!

—Martha Dyck

Thoroughly cook those morels

If you are gracing us with a dish made of delicious morels, such as *Morchella snyderi*, make sure to thoroughly cook them. Morel dishes made from dehydrated morels need to be thoroughly cooked, allowing all moisture to volatilize and steam to escape.

Please also label all the ingredients in your dish, including the mushroom species.

It's perhaps appropriate to have a bit of a warning before the Survivors Banquet. . . . Morels were in the news in February, when a woman developed symptoms of food poisoning, including vomiting and diarrhea, at a fancy restaurant in Spain and later died. More than two dozen others were made ill in the same evening. It is being reported that the woman ate a dish containing *Morchella* mushrooms, or true morels.

An inspection of the restaurant did not find any obvious reasons for the food poisonings, but food samples from the menu are still being tested. You can find the full story at <https://www.theguardian.com/world/2019/feb/21/woman-dies-after-eating-at-michelin-starred-restaurant-riff-valencia>

Morel poisonings are not unheard of. A review of 30 years of reported mushroom poisonings published by the North American Mycological Association, *McIlvainea* 16(2) 2006, showed an average of three cases per year of poisonings related to morels.

True morels can apparently contain minute amounts of hydrazine: yes, the same as the component in rocket fuel. False morels—such as *Gyromitra esculenta*—are known to have high levels of hydrazine. These mushrooms can cause liver or kidney damage and even be lethal. ID is all important!



Dishing up at last year's delicious Survivors Banquet.

Savor photos of spring fungi

Anxious for spring and the mushrooms it brings? We invite you to re-read an article from three years ago, *Spring Mushrooming 2016*, featuring photos and descriptions of spring mushrooms by club member and PhD Dick Morrison. Beautiful! Visit <https://www.northwestmushroomers.org/newsletter> and scroll down to the March 2016 edition.

Upcoming

Special events

March 16—Survivors Banquet

October 20—Wild Mushroom Show

Member meetings *all held at the Squalicum Yacht Club*

April 11—Hot Springs Mushrooms with Paul Kroeger

May 9—Topic, speaker to be determined

June 13to be determined

September 12.....Mushroom Cookery with Jack Waytz

October 10.....to be determined

November 14.....to be determined

Paul Kroeger is a Phd mycologist, long-time president of the Vancouver Mycological Society, and a brilliant and entertaining speaker. You won't want to miss this first NMA member meeting of the year! *Thursday, April 11*

Member forays

Forays are generally Saturdays following member meetings. Details are sent, as they are scheduled, via Northwest Mushroomers Association's google group, which is open to all dues paying members.

How Not to Grow Shiitake Mushrooms

This fall and winter I harvested some handfuls of large, aromatic, and delicious shiitake mushrooms from a log that I inoculated and cared for myself. We all know that growing shiitakes on a log is possible, or at least we have all heard the legends. I tried it myself for several years, yielding nothing but complete failure, and I heard similar sad stories from several other people, so I wondered at times if shiitake culture really was only a legend.

I assure you that it really is possible. What's more, when I finally harvested my own home-grown beauties, I was thrilled to discover that—like tomatoes—home (log) grown ones are fantastically aromatic and culinarily superior to the ones I find in the store.

Growing shiitakes on a log here in Bellingham was hard for me. I'm writing this article to help others in our area who want to try it out.

The first problem of growing shiitakes is that such an endeavor is only attractive to mushroom fanatics. Dear fellow mushroom heads: if you are like me, you often approach new endeavors with a creative, unruly, or capricious approach. For example: use a recipe to cook my dinner? Never tried it. When I start with a recipe, I read it once, then throw the recipe book back



Home-grown shiitakes taste better.

on shelf, then substitute all the ingredients, change the cooking method and time, as well as all the spices. Usually this turns out satisfactory, or at least good enough for me. I'm sorry, but if you are also like this, then you will have to reform your ways before you can

grow shiitakes on a log; get ready to follow directions.

Note, if you cannot change your ways then consider growing oyster mushrooms instead. Oysters will accept your capricious ways, and grow on practically anything: logs of various kinds, wood chips, cardboard, coffee grounds, newspaper, straw, and even cat litter. I don't care for oyster mushrooms on the dinner plate though, so back to shiitake.

On the internet you can find easily find instructions for growing shiitakes. When you buy shiitake spawn from Cascadia Mushrooms, Bellingham, the bag includes a paper with instructions. Really try to follow them as best you can, and do not do the following silly things that I did.

Do use species recommended by Cascadia. They have spent long long hours researching this and know what works! Alder is the way to go. Do not use alternate species of wood, as I did. First I tried several types of wood that were not recommended. I tried maple, even though it was not recommended. This did not work. Maple is too dense and too hard to keep moist. I tried cottonwood even though it was not recommended. It did not work. Cottonwood is incredibly porous and has low lignin content; this makes it a smorgasbord for all kinds of aggressive wild fungi, especially turkey tail. Do not use fruit wood like apple. It is dense like maple. I tried cherry wood; it did not work. Cherry is very dense and high in tannins which fungi do not like. Do not use birch. Birch bark falls off, but shiitake like to grow under bark. Around here you should probably stick with alder. I used alder and it worked.

Keep your log in natural light, like the directions say. Do not do what I did and leave the logs in your crawl space because it seemed nice and moist down there during the dry summer. Maybe if you follow all the other directions then you could leave them in a dark place for a while, but they certainly will never fruit there.

Keep your inoculated alder log high. Do not place your log on the ground. We live in a fungal paradise where wild, aggressive fungi teem in the soil. If you place your log on the soil, wild fungi will quickly attack your tender, domesticated shiitake.

Keep your log moist! Otherwise it becomes hydrophobic, sheds water and resists all efforts to wet it. One of the hardest things, even when you are really trying to follow the directions, is to keep the log nice and moist during our dry summer. Shiitake are



Eric soaking a log. A second log is shaded under cardboard.

from Japan which has a humid climate. We live in a Mediterranean climate with dry summer air. People in the eastern US have an easier time with their shiitake logs because they live in a humid climate like Japan, and can leave their logs in any shady place. I dried out and killed many logs. I succeeded when I put my log in a shady place right by my front porch where I would pass it frequently. A water spigot was also right there. And also a five gallon bucket. In the heat of summer, about twice per week, I would put my log in the bucket and soak it for a few hours. The whole log doesn't fit in the bucket so first I soaked one end, then the other. In the heat of summer, once per week did not seem like enough; twice a week was better.

Keep your alder log shady. Never, never let direct sunlight hit your log. This dries it out very fast. In the height of summer, this becomes difficult at our latitude because the sun rises in the northeast and sets in the northwest, which is to say that there is sun coming from almost all directions. Don't let your log get cooked from the 5:00-7:00 AM northern sun. To beat this problem in the summer, I had to always strictly cover my log with a protective roof of cardboard (still letting natural diffuse light underneath!).

Protect your log. Lastly, I offer you a tip that you will not find on any of the internet sites, because there is something unique about our particular landscape. We live in an area where enormous ghoulish slugs emerge

each night, sliming and devouring everything. I discovered that slugs love shiitake. I had my log resting near the ground. Finally after years of trying, a few tiny shiitake buttons started to emerge from my log. But faster than a slug on a hot tin roof, slugs found the little buttons and chewed them down to tiny shiitake stumps. I solved this problem by perching my log up high on the corner of my fence.

Dear fellow mushroom heads: you hate following directions but you love shiitake and you would love to grow your own. What a dilemma! What a paradox! Best of luck to you!

—Eric Worden

Resource:

Best Management Practices for Log-Based Shiitake Cultivation in the Northeastern United States, by Cornell University, College of Agriculture and Life Sciences.

<https://www.uvm.edu/sites/default/files/media/ShiitakeGuide.pdf>

Mushrooms and Microhabitats, Part 3

On morels and *Boletus rex-veris*

The relationship that morels share to habitat and other species is more mysterious than that of other macrofungi. An extremely wide variety of microhabitats is conducive to the appearance of at least one distinct species of true morel, and often more. Morels can be found in all elevations of our area, from sea level to alpine environments and virtually everywhere in between. Some varieties are found in abundance in the wet, older cottonwood stands to the east of the North Cascades divide; others around the stony outcroppings on southwest aspects of the islands to the west of Bellingham in Puget Sound, among ancient Pacific madrones.

Certain morels can be found in the company of old apple trees in areas where orchards have been allowed to fall into ruin but the trees have remained. And finally, and perhaps most surprisingly, in the first spring seasons in forests following clear-cutting operations, morels can be found lined up in file, following the tracks where logs were dragged down mountainsides to be loaded onto trucks for transport.

Morels are also capable of turning up in places that one would never suspect. NMA's Buck McAdoo relates a tale of one such fruiting, which serves as an excellent illustration of mushrooms and the microhabitats in which they play a role. One of the local drinking establishments suffered a blown beer keg one early winter day, and the bartender solved the problem by



simply removing the keg to the alley behind the tavern. The following spring, in the strip of exposed ground adjacent to the alley, appeared a robust fruiting of morels!

The microhabitat most favored by morels is in forests, the first spring season especially, following wildfires. Then they can be found at all elevations, in every type of forest. It is interesting to note from the perspective of the science of mycology, that although the many species of burn morels found in our area also occur where the many species of “naturals” (morels which grow in unburned forests) are found, none of the burn morels are the same species as any of the



naturals. Pictured (Photo 1, previous page) are the many life stages of the fruiting bodies of *Morchella tomentosa*, a very large and substantial species of burn morel, which appears at the end of the burn morel fruitings, generally after the other species of burn morels have become spent. If moisture holds, this species can continue to fruit well into midsummer, and in 2013, *M. tomentosa* was observed into October, fruiting at the same time as matsutakes and white chanterelles!

Last spring I was invited to go on a late May natural morel hunt with fabled East Side Washington huntress Sherry Schneider-Means. We went to a high elevation (5500– 6500 feet) forest, which had been recovering from a wild fire that occurred there 25 years ago. There was a good mix of Pacific silver fir,

Douglas fir, ponderosa pine, and poplar. Ground cover was variable, from sparse to busy, and consisted of grasses and alpine wild flowers, especially at the edges of the forest. The natural morels found in this forest gravitated to areas of drainage, the contrast of moisture to the rest of the relatively dry conditions seemed to be the habitat catalyst of the fruiting. This species is characterized by very large, squat fruiting bodies (Photo 2), the largest of which weighed an incredible 1.4 pounds! The species name of this morel remains a myco-mystery at the time this article goes to press.

If that's not fascinating enough, there was a microhabitat *within* a microhabitat in this alpine forest. Since the forest was recovering from an earlier burn, the trees which survived that fire were frequently exposed to lightning strikes, common during the thunderstorms that roll through the area in fall. In the fall of 2017, a few of these trees were unfortunate enough to have indeed been struck by lightning, some burning to the ground as well as fire charring some of area immediately surrounding the trees. Remarkably, in these small burned areas grew a robust assemblage of burn morels! Buck identified these as *Morchella eximia* (Photo 3).

The Spring King

The other prominent desirable edible wild mushroom found in the spring season is none other than the spring king, *Boletus rex-veris*. We have a unique microhabitat situation in the alpine areas of eastern Washington, which has—alone in the northern hemisphere—two fruitings of porcini mushrooms per year: *B. rex-veris* in spring, and *B. edulis* in fall (Photo 4).

Boletus rex-veris is a very large and extremely tasty bolete, perhaps superior in flavor even to the great king, *B. edulis*. They are found at 3000 feet and higher, at the transition point from Douglas fir to true firs. They are in fact mycorrhizal with Pacific silver fir. In the areas of the greatest concentration of fruiting bodies, in my experience, there are also vine maples present. The maples seem to optimize the environment for these delectable forest treats.

The density of the fruitings of *B. rex-veris* in their habitat is contingent





upon two basic environmental conditions: 1) soil temperature contrast transitioning from winter to spring, and 2) substantial rainfall as air temperatures warm into the 80s and 90s Fahrenheit. If these conditions don't line up properly, the fruitings are meager, being limited to isolated fruiting bodies in dips and low areas where some moisture has been retained and where direct sunlight has warmed the soil just enough.

During years when conditions line up perfectly, you can expect gaudy hauls on the forage. After several paltry years in a row, last year was one of those bountiful years. In a two square mile area, I found 70 pounds! (Photo 5)

With a very good snow pack this year, the potential for a great year, is high. Happy hunting!

—Jack Waytz

MUSHROOM OF THE MONTH

Lactarius pseudoflexuosus group

The day was October 10, 2016. It was personally significant because it represented my first trip ever to eastern Washington to look for fall mushrooms. Jack Waytz was behind the wheel. We were going because he had heard from his Leavenworth contact that the white chanterelles were up. Sherry Schneider-Means would not be joining us. She would instead be answering his phone calls in case we wandered off course.

All we knew at the outset: the big whites were somewhere to the west of Lake Wenatchee. We headed out on Route 2 and at Coles Corner took a left turn on a macadam road in a northerly direction. After about half an hour we began spotting Russians on the side of the road. They identified themselves



Lactarius pseudoflexuosus group, a new record for western North America.

as such when Jack pulled over to talk. Mixed results so far. Jack opted to keep driving. Soon we were approaching the western end of Lake Wenatchee. We parked next to a road long overgrown by weeds and started walking. I figured this was a waste of time.

The hemlocks and firs usually favored by *Cantharellus subalbidus* were nowhere to be seen. Instead we were in a low swampy area with western red cedar, vine maple, a few alders, and many cottonwoods. Big clumps of *Amanita ameromuscaria* nom. prov. began showing up in the middle of the road. Undeterred, Jack plunged ahead. After some time had passed, I heard a shout.

“Hey, Buck, there’s something interesting on the path up here. You better check them out!”

And so it came to be that Jack Waytz discovered what may well be the first collection of *Lactarius pseudoflexuosus* found west of Michigan. They were beautiful specimens. Mauve-brown zonate caps with straw colored gills. When I couldn’t key them out to my satisfaction back in Bellingham, I scanned the photo to *Lactarius* expert Dr. Annemieke Verbeke in Belgium. She luckily accepted the collection for DNA sequencing. We are indebted to her for the identification.

My notes are as follows: Caps were 5–10 1/2 cm wide, deeply infundibuliform becoming shallowly depressed in age. They were faintly viscid when wet. Discs were lilac-brown becoming zonate towards the margins with paler flesh-brown bands. KOH turned the cap surface yellow. The context was thickish and white. Gills were decurrent with many ascending lamellulae. They were pale straw colored and did not change color when bruised. The stems were 4–5 1/2 cm long and 1 1/2–2 cm thick. Fragile, glabrous, and soon hollow, they were equal or tapered towards the base. They were buff at the apex and then pale flesh-brown below. Their context was buff-straw color. The latex was white to buff, not changing immediately when drying. The odor was mild, the taste mildly peppery. The spore deposit was buff, the spores amyloid in Melzer’s.

Subsequent research gave the type location as Douglass Lake in Cheboygan County, Michigan, on August 29, 1946. This was nice to contemplate. The taxon was clearly attracted to lakes. It was found in a mixed coniferous-hardwood forest, possibly not the same combination of trees. After perusing the type description I noted a few differences from our collection. Hesler & Smith described the tomentum at the cap margin as ‘drab or nearly so’. Our caps seemed more bald with a pallid bloom at the margin. They described pale pinkish cinnamon colored gills where

as ours were pale straw-colored. The spore deposit was also pale pinkish buff and the taste very acrid.

Normally such discrepancies would raise a few eyebrows. DNA sequencing may trump them all. I did note that all photos of gills that I saw in Dr. Richard Homola’s treatment of *Lactarius* in Maine plus those exhibited by Fischer and the Bessettes showed pale straw-colored gills despite the accompanying written description claiming otherwise. These authors did however offer a few more observations. Homola felt the species could have an association with northern red oak. In *Milk Mushrooms of North America* we learn that stems can be scrobiculate. The closest look-alike, *Lactarius pseudomaculatus*, differs by its white spore deposit and a young cap margin with appressed brownish tomentum. Edibility was unknown. It was an uncommon species, yet widely distributed in eastern North America.

And finally, the online site, Mycoquebec.org, shows marvelous photos by Renée Lebeuf and Yves Lamoureux. We learn that spores are subglobose, stems are not always scrobiculate (pocked), and the dried latex stains the gills brown over time. They contend the gills are clearly distant if one discounts the numerous lamellulae. A look-alike, *Lactarius circellatus* var. *borealis*, has much closer gills and ellipsoid spores. Another look-alike, *Lactarius flexuosus*, has dry caps that age rivulose-squamulose, a non-tomentose cap margin, and spores with more isolated warts.

So at the end of the day we never did find the big whites. Jack will have to be content with discovering the westward migration of *Lactarius pseudoflexuosus*. No two forays are the same.

Addendum—In retrospect, the actual sequences were forwarded to Danny Miller of the Pacific NW Key Council for his perusal. Here is what he emailed me: “In conclusion we have three species in this *Lactarius* group. European, eastern North American, and now western North American, all of them different. However, this is a very cool sequence and I am delighted that you got it. We have learned a lot from it. There are no *Lactarius* sequences like it in the Pacific Northwest. It’s in a totally new group. It was in an empty section of the tree before, but now we have a record of a new kind of *Lactarius* than we have ever had a sequence of before.”

—Buck McAdoo

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The Northwest Mushroomers Association meets 7–9 PM on the second Thursdays of Apr, May, June and Sept, Oct, and Nov, at the Squaticum Yacht Club in Bellingham. To stay apprised of forays, events, meetings, and more, please join our googlegroups email list automatically by signing up as a member. Or visit northwestmushroomers.org/events

Annual membership dues are \$25 (general—includes families and individuals); \$50 (benefactor); and \$15 (student). Make checks payable to NMA and mail "Attn: Membership" to address above. Or use Paypal online at northwestmushroomers.org/join-or-renew-membership

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Club members are encouraged to submit stories, photos, recipes, and artwork. We appreciate your interest! Submissions should be made three weeks prior to the date of publication. Send to [chanterellerin \(a\) gmail.com](mailto:chanterellerin@gmail.com).

The Northwest Mushroomers Association promotes the understanding and appreciation of mushrooms: furthering the study of fungi, their identification, natural history, ecology and conservation. We serve mushroom enthusiasts in northwest Washington State, including Whatcom, Skagit, and Island counties.



Turkey tails, rainbows of color and medicinal to boot.