Signs of an Early Spring in Northwest Washington

Fruitings of spring mushrooms in our lowland forests warm things up for the Survivors Banquet

Though we are still at the end of winter, our local mushrooms are already thinking it’s spring. In addition to the appearance of the first green leaves unfurling on the salmon berries, and the first sightings of skunk cabbage in the creek bottoms, spring Nolaneas and robust fruitings of Mycenes have been spotted in various forests in our area. Some fall mushrooms have shown smatterings of activity as well, being fooled by out of season conditions. Helvella lacunosa and Stropharia ambigua have been among them.

It is becoming more difficult as the years pass, to be able to judge what ‘normal’ tendencies in the weather may be, and exactly how those tendencies will affect what we have come to know as ‘normal’ mycological features, which are observed in the beginning of the spring season in our area. February is normally a time for near complete dormancy in the mushroom kingdom in our local forests, with a few exceptions occurring in more mild years, or during periods of thaw in otherwise more typical winter seasons.

Although this winter has featured more days in which temperatures have been below the freezing point than last winter, there has been no snow in the lowlands for the third consecutive year, and this has a tenable impact on the fruiting cycles of fungi. there has been marked confusion in the subjects of the Fifth Kindom, and this has manifested itself in both absence of expected species, and out of season sightings of others.

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After an abbreviated and rather mild winter, spring like weather has arrived in the Bellingham area and Whatcom County, with skunk cabbages peeking out from their winter beds, trees shedding pollen and bud scales, showy flower displays appearing on some trees, and troops of robins flitting about. This also means that the spring mushrooming season is about to begin in our area. Some mushrooms and other fleshy fungi have been fruiting in the lowlands since January, and with continuing mild, wet weather we might expect an early appearance of our typical spring mycobiota, and, if we’re lucky, some unusual finds, as well.

If you haven’t already done so, now is a good time to dust off your mushroom guides, tune up your identification skills, and head out to scout for the fleshy prizes that might be showing up in your favorite mushrooming haunts. Remember to practice responsible mushrooming. And, if you’re going for edibles be absolutely sure of their identification, and review the guidelines for safely enjoying edible wild mushrooms.

The following article illustrates a small sample of mushrooms and other fleshy fungi that might be encountered now through the spring season in Whatcom County. With the wide choice of lowland, foothill, mountainous, forested, woodsy, riparian, rural and even urban environments you don’t have to go too far or off the beaten path to find attractive, interesting, and edible wild mushrooms, here. What are you waiting for?

Caloscypha fulgens, the Snowbank Orange Peel Fungus, is a cheery colored little cup fungus that fruits in the early spring under conifers. Look for it in damp spots in woods, along moist woodland paths and trails, and soon after snow melt at higher elevations. It is not considered edible, and may even be toxic, although some claim it has medicinal properties.

Hygrocybe flavescens is a lovely late winter and early spring mushroom with its yellow color and orange tones, and is a welcome sight against the often austere background of dark soil and leafy debris. It can be found in woodsy areas. This group was found along a trail in Whatcom Falls Park. Although, edible, it is slimy and watery fleshed and has little flavor.

Mycena robusta is large and somewhat meaty for a Mycena, hence the species name. It has a long stem and grayish cap that fades to silvery-gray. There were large fruitings in late January and early February in Stimpson Reserve. It might be confused with the smaller M. stipata which has a chlorine odor when crushed, whereas M. robusta does not.

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Simple Fried Morel Mushrooms

Ingredients:

1 pound fresh morel mushrooms - dirt gently brushed off and mushrooms halved lengthwise
1 cup all-purpose flour
1 cup vegetable shortening
salt to taste

Directions:

Place halved morel mushrooms in a large bowl; cover with cold, lightly salted water. Refrigerate mushrooms for about 5 minutes to loosen any dirt; pour off salted water, rinse, and repeat twice more. Crevices of the mushrooms may harbor tiny stones or even insects. Thoroughly rinse mushrooms a final time and allow to drain on paper towels.

Place flour in a shallow bowl.
Heat vegetable shortening in a large skillet until very hot.
Roll mushrooms in flour and tap off excess; gently lay mushrooms in the hot shortening.
Pan-fry until golden brown and flour coating is crisp, 5 to 8 minutes, turning often. Drain morels on paper towels, salt to taste, and enjoy your treasures!

*Recipe furnished from Jonna, Allrecipes.com*

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The Northwest Mushroomers Association meets 7–9 p.m. on the second Thursdays of Apr, May, June and Sept, Oct, and Nov. Meeting location is the downtown Bellingham Public Library.

We will inform you in advance of any changes in time or venue. *Note: the April 2016 meeting will begin at 8:00 pm, to avoid a scheduling conflict. Come in quietly, please!*

Fungal forays and field trips are scheduled for the Saturday after each meeting. To stay apprised of forays, events and more, please join our googlegroups email list by signing up as a member.

Membership dues are $15 for families and individuals and $10 for students. Please make checks payable to NMA and mail "Attn: Membership" to the address above, or use Paypal online at northwestmushroomers.org/join-or-renew-membership/

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NEWSLETTER

*MushRumors* is published in the months of March, June, September, November, and January online at northwestmushroomers.org. Club members are encouraged to submit stories, photos, recipes, and artwork. Submissions should be made two weeks prior to the month of publication.

For newsletter content or comments, contact editor Jack Waytz above or mail to:
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Agrocybe praecox, the Early Agrocybe, is frequently found in woodchips in urban settings in the spring. This brown-spored agaric is meaty and considered a good edible by some. However, be sure of your identification, and, if you decide to eat it, best to check with NMA members like Christine Roberts who is experienced in eating this mushroom.

Morchella snyderi, is a choice woodland black morel that fruits under conifers and mixed woods in mountainous areas in the latter part of spring. With their subdued coloration it can take a sharp eye to spot them in a dimly lit forest setting. All morels and their near relatives should be assumed to contain small amounts of heat volatile toxins like gyromitrin, so they must be cooked thoroughly.

Morchella rufobrunnea, the Landscape Morel, fruits in urban and rural landscapes in late spring. Look for it in gardens and areas recently spread with wood mulch. You might even spot it while taking a neighborhood walk.

Morchella anthracophila is one of at least four “burn site” morels that fruit in abundance the first spring or two after a forest fire in mountainous regions. These species are a prime target of commercial pickers and amateur mushroomers, alike. Mushroom hunting permits may be required on some public forest lands, so it’s wise to check on the regulations before setting out.
Morchella tridentata, the Western Blonde morel, fruits in conifer and mixed forests in spring and early summer. As tasty as it is attractive.

Tremella mesenterica (top) and Dacrymyces palmatus (bottom) are two brightly colored near look-alike jelly fungi that brighten up the woods in both spring and fall. They are commonly known as Witches Butter. Although similar looking, they belong to different fungus orders, producing their basidiospores on different types of basidia. However, they can be told apart by the wood they grow on; T. mesenterica is found on hardwoods and D. palmatus on coniferous wood.

Coprinellus micaceus, the Mica-Cap, is one of the inky cap mushrooms. The caps are often coated with small flecks of mica, thus the name. It fruits in spring and fall around rotting hardwood stumps and buried wood, frequently in large clusters. The caps deliquesce to an inky black liquid rather quickly, attracting insects which help distribute the spores. It is a good edible when young, but often overlooked. Although a bit “juicy” when cooked, it can make a tasty sauce or gravy.
*Pleurotus pulmonarius* is the most common species of Oyster Mushroom in the PNW. Summer Oyster and Phoenix Mushroom are other names. It is a white rot wood decay fungus, most often found on dead and decaying alder stumps and logs in our area, but also on other hardwoods. It fruits later in the spring when temperatures are warmer, and is a popular and choice edible, and a good mushroom for beginning wild food foragers. The equally edible look-alike, *P. populinus*, fruits on cottonwood and aspen.

Known as the Pig’s Ear, *Gyromitra ancilis* (= *Discina perlata*) is an early spring ascomycete with a cup-like shape found on wet soil and rotting wood. There are several similar looking species. According to Arora in Mushrooms Demystified, some people eat it, but why they eat it, mystifies me. It is not recommended as an edible.

Brain Mushroom and False Morel are two common names for *Gyromitra esculenta*. It can have a variable appearance, as shown in the two photos at left, and fruits from spring to early summer under conifers and in mixed woods. This species is listed as poisonous because of gyromitrin and other toxic hydrazines, which can kill or cause serious illness. It is eaten by some after thorough boiling in water to remove the volatile toxins. The amount of these compounds in our western U. S. populations is poorly known. It is best avoided as an edible since the health risks far outweigh any gastronomic benefits.
Helvella maculata, the Fluted Brown Elfin Saddle, can fruit in spring and in the fall. The cap is saddle shaped, free from the stem, and mottled or dappled. Edibility is not known. But, it likely contains the toxin gyromitrin and/or related compounds.

Verpa bohemica, the Early Morel or Thimble Morel, is a popular early spring edible for many people. It fruits in damp woody areas, especially under cottonwoods, and can be difficult to spot when emerging in a patch of old brown leaves, as these were. Edible with caution, it likely contains small amounts of gyromitrin, so must be thoroughly cooked. Although soft fleshed, it can be a yummy addition to an omelet.

Upcoming Events for the Northwest Mushroomers Association, 2016

Annual Survivor’s Banquet March 12th, 2016 Bellingham Unitarian Fellowship 5 pm

Morel Madness June 3rd - 5th, 2016 Stonewater Ranch, Leavenworth, Washington

Fall Wild Mushroom Show October 16th, 2016 Bloedel Donovan Park, Bellingham, Washington

2016 NMA MONTHLY MEETING PRESENTATIONS FOR THE SPRING SEASON

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Mushroom of the Month: Tricholoma atroviolaceum (A.H. Smith)  By Buck Mcadoo

Back in October of 2013 club member Seren Fargo found this impressive Tricholoma up around Glacier in the company of conifers. At first sight none of us knew what it was. This was embarrassing because the purpose of the club is to enlighten members with an identification to go with their finds. It just wouldn’t key out for me, which remains a mystery because when Tricholoma expert Clark Ovrebo put a name on it with just one look, it proceeded to key out everywhere I looked. Dr. Ovrebo mentioned that it was a semi-rare species he hadn’t seen in some time and he was happy to see it again.

Tricholoma atroviolaceum was first recorded at Kerby, Oregon, near the California border, by Dr. A.H. Smith on November 29, 1937. He subsequently made three more collections in 1941 at the Olympic Hot Springs, Mt. Angeles, and Storm King Mountain all in the Olympic Peninsula. Kris Shanks, doing her doctorate on the Genus Tricholoma in California, later reported it from the Sierra Nevadas, usually with Douglas fir. Today its range extends from Santa Cruz County in California north along the coast up to Graham Island in Haida Gwaii and inland to Hazleton, B.C. at latitude 55. (Paul Kroeger, personal communication.)

The caps of T. atroviolaceum are 4-18 cm wide, convex to plane and broadly umbonate, often with irregularly lobed margins that tend to tear radially in age. The surface is densely fibrillose to squamose with purple-black scales that become sparser towards the margin. The entire cap fades to gray-brown in age, a tendency that doesn’t make it any more appetizing to look at. Kris Shanks tells us that both stem and cap contexts turn reddish-gray when bruised. Among Tricholomas, this is a feature unique to T. atroviolaceum. The gills are adnexed to notched, about 1 cm deep, and pale gray at first becoming pinkish-gray at maturity, then sordid brownish-gray in age. They have uneven to eroded edges that turn black in age. The stems are 1½ - 4 cm thick and 6-14 cm long. They are equal or expanding towards the base, often abruptly bulbous. The base develops yellowish-tan discolorations where handled. The apex is pruinose white to pale lavender-gray. The rest of the stipe is whitish with brown fibrils that darken in age. The spore deposit is white and inamyloid. The odor and taste is strongly farinaceous, sometimes rancid farinaceous.

Microscopically, A.H. Smith measured spores at 7-9 x 4.5-6 microns. They were subellipsoid to subovoid and thin-walled. He found mostly inamyloid and subparallel gill trama. There were no clamps, no pleurocystidia, and no cheilocystidia. Caulocystidia on the stem were clavate to cylindrical, measuring 24-43 x 5.8-7.2 microns. The pilepellis was a cutis of brown parallel hyphae with fascicles of recurved hyphae where the squamules were. These hyphae had brown encrustations. The pileal trama was strongly differentiated. Kris Shanks referred to it as a parenchymatous hypodermium. In the Snell & Dick glossary, ‘parenchymatous is ‘thin-walled, isodiamic cells’. Hypodermium is ‘inner layer’. This feature within Tricholoma is unique to Tricholoma atroviolaceum.
There don’t seem to be any other Trichs with such obvious purple-black cap scales, but a list of potential look-alikes would include the following: 1.) Tricholoma luteomaculosum, at times found at Easy Pass. It differs by having cheilocystidia, pleurocystidia, and large brown caps with yellow stains on the margins and on the gill edges. 2.) Tricholoma nigrum, found throughout the Olympic peninsula, with dark slate-gray to blackish caps and pale gray margins. 3.) Tricholoma atrosquamosum that differs by having cheilocystidia and caps with inrolled ‘bearded’ margins when young. 4.) Tricholoma squarrulosum with dark brown densely scaly caps and stems. 5.) Tricholoma borgsjoense, an extremely rare species from Scandinavia with brown felty-squarrose caps and gray stems that taper towards the base. The authors of this taxon thought T. atroviolaceum was a close genetic relative. 6.) Tricholoma hordum in the sense of Ricken, a European species which has nearly violet-black caps but differs by lacking the farinaceous odor, having smaller spores and a whiter stem.

As for edibility, most authors simply note ‘unknown.’ Trudell & Ammirati found the taste to be slightly bitter. This adjective added to the already noted strongly farinaceous odor and taste, plus the general appetizing appearance of the carpophore, may keep it in the ‘unknown’ category for some time to come.

1. Bibliography

Conservation Corner: Wood-Water-Ice Sandwich for Fungi  
By Erin Moore

On a winter’s morning forest walk following a just-below freezing, humid evening, have you ever seen hair ice growing on wood? We’ve just learned that these beautiful formations are biologically mediated by a fungus, *Exidiopsis effusa*, in the Auriculariaceae (jelly or wood ear) family.

A study published on 22 July 2015 in *Biogeosciences* (an open access journal of the European Geosciences Union) has confirmed the hypothesis originally suggested by Alfred Wegener, of tectonic-plate fame, in 1918.

Study coauthor and physicist Christian Matzier of the University of Bern in Switzerland says that the winter-active fungi, living as hyphae within the cold wet wood (what he calls a “wood–water–ice sandwich”), facilitates the ice forming into thin hairs with a diameter of about 0.01mm (a tenth the size of a human hair). The physical action of frost formation alone would simply form a crust. (And rime ice and surface hoar are other things altogether.) The fungi also keeps the ice’s shape long and thin with a “recrystallization inhibitor,” a breakdown product of lignins and tannins produced by the fungi.

Coauthor and biologist Gisela Preuß has collected wood samples and recorded beautiful photos of hair ice from forests near Brachbach in western Germany. In her samples, she identified eleven different species of fungi. “One of them, *Exidiopsis effusa*, colonised all of our hair-ice-producing wood, and in more than half of the samples, it was the only species present,” she said.

Hair ice is something to remember winter by as the spring equinox approaches. Keep your eyes peeled!

Sources:

It’s physics! It’s mycology! It’s both! Hair ice on dead wood, winter time, Olympic National Park.

*Photo by Roger Contor*
Erin’s Find, *Typhula phacorrhiza*

By Dick Morrison and Buck McAdoo

On February 16th this year, club member and past NMA president Erin Moore showed up at Buck McAdoo’s office with a passel of small (3-6 mm wide) flattened, sometimes heart-shaped light-brown fungal bodies attached by a short pedicle to dead grass leaves (Fig. 1). Erin found the collection out by Mt. Baker Vineyards near Deming, WA in decomposing plant debris and lightly graveled soil under an edible fig tree (*Ficus carica*). She immediately thought “mushroom,” but also wondered if they might be seeds. Being an experienced naturalist, Erin, of course, bit into one, discovering that it was not a seed, and had a distinctly fungus-like taste. This led her to bring the samples to Buck who thought from the color and shape they might be the fruit bodies of a subturbinate ascomycete, or possibly dormant fungal bodies called sclerotia.

By chance Dr. Dick Morrison showed up at Buck’s office the following day and took a few specimens home to hydrate so they could be sectioned for a look at their structure under the microscopic. This examination verified that the bodies were sclerotia composed of an internal mass of whitish crystalline cells covered by a cortical skin made of the most amazing looking jig-saw puzzle shaped brownish cells (Fig. 2). A look into literature on various sclerotial fungi revealed that sclerotia with jig-saw puzzle shaped cortical cells were characteristic of the fungal genus *Typhula*, a clavarioid basidiomycete that bears its sexually produced basidiospores on small club-like structures called clavula. However, having only the asexual sclerotia, the question became could we reliably identify Erin’s find to species without the sexual “perfect stage” clubs to examine? A further search of the literature on *Typhula* species associated with grasses turned up a quite likely candidate, *T. phacorrhiza*, a species whose sclerotial morphology and jig-saw puzzle shaped cortical cells matched Erin’s fungus quite nicely. We also learned that *T. phacorrhiza* is found in cool temperate to boreal regions across the Northern Hemisphere, and has been reported from Washington State.

*T. phacorrhiza* is one of the fungi associated with a disease of turfgrass known as *Typhula* blight that results in dead patches of grass that have been under snow cover. These fungi are known as snow molds because they can grow and cause damage at temperatures at or just above freezing (because of this affinity for cold temperatures they are called psychrophilic, or cryophilic organisms). *T. ishikariensis* and *T. incarnata* are the more aggressive and well known of the *Typhula* blight species and cause serious losses to turfgrass in regions with significant winter snow. In contrast, *T. phacorrhiza* behaves mostly as a saprobe, decomposing the tissues and debris of grasses as well as various hardwood trees and herbaceous plants. Although, considered a weak grass pathogen, it can sometimes blight turfgrass covered by snow, and has been reported to damage winter wheat, as well. Yet, it has a beneficial alter ego as certain strains of *T. phacorrhiza* are antagonistic to *T. ishikariensis* and *T. incarnata* and

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**Photo by Dick Morrison**

Fig. 1. Sclerotia of *Typhula phacorrhiza* on grass and plant debris found by Erin Moore near Deming, WA, Feb. 2016.

**Photo by Buck McAdoo.**

Fig. 2. Jig-saw puzzle shaped cortical cells on sclerotia found near Deming, WA that are characteristic of *Typhula phacorrhiza*. 
have been employed as a biocontrol agent to reduce their damage to turfgrass under snow cover.

Sclerotia of *T. phacorrhiza* are formed on dead plant matter when conditions become unfavorable for growth and nutrients are exhausted. Large numbers can be formed, with some remaining attached to the substrate by a short pedicle and others becoming detached and free. Sclerotia serve as survival structures during unfavorable warm, dry conditions, and as a storehouse of nutrients. Sclerotia germinate to either produce vegetative hyphae, or if conditions are right, to produce the sexual club (clavula) stage on which basidiospores are produced. Both vegetative hyphae and basidiospores are capable of colonizing organic plant matter and infecting susceptible grass host tissue, forming a mat of vegetative mycelium from which sclerotia are later formed.

The sexual club stage of *T. phacorrhiza* typically arises from sclerotia and is induced by several weeks of mean daily temperatures around freezing (32 F) in the fall of the year. The clubs are thin, cream to light yellow colored thread-like structures up to 4 inches high. If you look up *T. phacorrhiza* on-line you can see photos of the clubs. Whether Erin’s find will produce clubs this season is unknown, and probably not until fall when cold temperatures and moisture would be conducive to sexual reproduction. She intends to check the area regularly, especially as we move towards the fall NMA wild mushroom show, to scout for the little clubs. Finding the sexual club stage would let us put the finishing touches on the identification of this easily overlooked little club fungus.

**Selected References**


