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MushRumors

The Newsletter of the Northwest Mushroomers Association

Volume 19 Issue 4 March - April 2009

Northwest Mushroomers Spring Back to Life After the Long, Cold Winter

2009 Survivors Banquet to Jump Start the promising New Season: Bring Us Your Mushrooms!

Yes, my fungal friends and myco-co-conspirators, once again we stand perched to hurl ourselves into the forests and alpine of our region in search of the earthen jewels which are our beloved mushrooms. But first, let us dust off our jars of well hidden dried mushrooms and delve deeply into our freezers for our frozen vacuum packs of small treasures and form a spring feast to enjoy. Togehter, let's celebrate the exciting mushroom year to come with culinary delights made from last season's great bounty.

Photo by Jack Waytz

A sampling of last year's cookery

The Survivor's Banquet is a pot luck supper featuring your favorite mushroom dishes. It can be an hors d'oeuvre, main or side dish, salad or dessert. Please bring your dish ready to serve since we will not have use of the kitchen this time. Also, please please mark your dish with a card identifying the mushroom used, and other main ingredients as a courtesy to others who might have dietary restrictions. And, rather than encourage paper products, please also bring your mushroom basket with your personal plate, napkin and utensils.

We will be convening in a new venue this year. Our club is growing rapidly and the cozy confines of the Bellingham Yacht Club annex can no longer hold our swelling ranks. This year, we are holding the event at the VFW Post 1585 on 625 North State Street in Bellingham on March 21st, 2009 at 5:30 pm. This is a larger facility, with a lot of kitchen counter space which shall serve us well in presenting what has become a vast feast of mushroomy dishes. We shall certainly endeavor to eat everything.

Photo by Jack Waytz

Jack & Tokiko: great kitchen team!

The other new and different aspect will be that we will be availing ourselves of the bar rather than bringing our own bottles of wine. In fact, we are not permitted to bring our own alcoholic beverages. The bartender will

In this issue:

have a good supply of wines for us, as well as beers on tap and bottled, and mixed drinks. The wines will start at about $3.00 per serving. The VFW makes their income on their alcohol sales, and are charging us a very modest rental fee for the room, so I hope this works out for us.

As usual, the club members will see to the business of electing officers for the coming year, and there will also be our traditional raffle of mushroom memorabilia. Feel free to bring all such fungus related items for the raffle table. Bring some extra cash to buy raffle tickets. ($1.00 each).

This year we have a different program than in the past. Our president, Doug Hooks, and club member Dick Morrison have agreed to put together a digital slide presentation featuring the mushroom photographs of the club members collective archives. This is your chance to show off your photographic skills, as well as your prowess as a bona fide mushroom hunter. Please send your digital photos to Doug, at doug41hooks@hotmail.com. The more pictures we get, the better the program. Don't be shy, there's still time for submissions!

Photo by Jack Waytz

Erin shows off a chunk of the rare *Polyozellus multiplex* found by Cris Colburn at Schreibers Meadow

I wish to extend my heartfelt gratitude to Erin Moore for the work that she has contributed to the publication of this newsletter since I started producing it in 2003. Buck and I have done most of the writing, with cameo appearences by a host of others, to whom I am grateful.

The credit for the polish on the final product, however, goes to Erin, who edits and proofreads to remove the errors and inconsistencies that I am so adroit at overlooking.

Thanks, Erin - Jack

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The Northwest Mushroomers Association meets at the Bellingham Public Library, 210 Central Ave., Bellingham, in the Lecture Room, at 7:00 pm on the second Thursday of the months April, May, and June and September, October, and November. *Note:* This year's April and November meetings will be held at the ReStore. We will inform you in advance of any changes of venue. Membership dues are $15 for individuals and families and the special price of $10 for students. Please make checks payable to NMA and forward to: Cris Colburn, Membership, at the mailing address above.

Fien is our new field trip coordinator. Field trips are scheduled for the Saturday after each meeting.

MushRumors is published every other month (roughly). Deadlines for submissions are the 15th of odd-numbered months. (Of course, exceptions will be made in the event of fungal finds of unusual import!)
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Mushroom of the Month:
Boletus rex-veris (Arora & Simonini)
By Buck McAdoo

Photo By Buck McAdoo

A bolete, by any other name would still taste as sweet!

For several decades our club has been crossing the Cascades to the eastern side every spring to search for the elusive morel. If we happen to go in late spring we usually reap the benefit of running into a large, brick-capped bolete with mustard yellow pores. Many of our club members find it just as tasty as our local *Boletus edulis*, and therefore it helps us diminish the pain of finding no morels. The odd thing is that until now, this very showy bolete that stretches from British Columbia down to the Sierra Nevadas never had a correct name.

Roger Phillips probably came closer than most. We collected it together in the Cle Elum area back in 1989. He photographed a collection, then took the specimens back to Kew Gardens for identification. They must have had the devil of a time finding a name for it. I can picture the research team becoming more incredulous by the minute. They finally settled on the name *Boletus edulis var. aurantioruber* and published the photo on page 232 of his *Mushrooms of North America*. Despite the lyrical flow of the specific epithet, this name never really caught on. We kept referring to it as 'that eastern Cascade edulis', or eventually, trying to appear a little more erudite, *Boletus pinophilus*. Neither, it turns out, was correct.

The idea that it might be *Boletus pinophilus* may have originated with Dr. Ernst Both, an esteemed boletologist from the Buffalo, New York, area. In his book, *The Boletes of North America*, he wrote under his description of *Boletus edulis subsp. aurantioruber*, ' This taxon appears to be very close to, if not identical with, the European *Boletus pinophilus*. The overall color scheme and the dimensions of spores and cytstidia are nearly identical.' Notice that he didn't come right out and say they were the same. But he did make the suggestion. It was just enough. My hunch is that professionals who shied away from the name 'aurantioruber' latched onto *B. pinophilus* with a sense of relief.

Frankly, I've always had problems with that concept. I had collected *Boletus pinophilus* with Dr. Roy Watling in Scotland years before. The caps were dark maroon-brown and the stems were tan to brown. I decided to send Roy specimens and photos from our foray last spring. I received an immediate e-mail stating that 'one thing it is not is *B. pinophilus'*. Couple days later I received a second e-mail declaring that our species did not occur in Europe, but that it was definitely part of the edulis group. *Boletus aurantioruber*, on the other hand, has been reported from Europe. Henning Knudsen listed it as *Boletus edulis form aurantioruber* in *Nordic Macromycetes*, Vol. 2.

Meanwhile, not everyone was shying away from 'aurantioruber'. In *Mushrooms of Cape Cod and the National Seashore*, authors Bessette, Both, and Neill raised it to species status. Here at last was the first full macroscopic description of *Boletus aurantioruber*, by far the closest look-alike to our *Boletus rex-veris*. Photos of the two species look the same. Although Arora did not compare species in his introductory publication, the differences appear to be as follows: 1.) *Boletus rex-veris* occurs in most mountain ranges west of the Rockies while *Boletus aurantioruber* can be found from Michigan east to Cape Cod. 2.) *Boletus aurantioruber* has a smaller stature. Caps run up to 12 cm. wide with stems up to 2 ½ cm. thick and 12 cm. long. *Boletus rex-veris* has massive caps up to 35 cm. wide and stems up to 10 cm. thick! 3.) *Boletus auarntioruber* fruits above ground while *B. rex-veris* is almost hypogeous, fruiting often below ground with only the top of the cap poking through the duff. 4.) *Boletus rex-veris* often does not have reticulations on the stem, but if it does, the reticulations do not change color when bruised. *Boletus aurantioruber* has reticulations that bruise dark brown to black when handled. 5.) Rolf Singer discovered that hynenophoral tissue dabbed with Melzer's had a fleeting amyloid reaction with *Boletus edulis var. aurantioruber*. This remains to be seen with *Boletus rex-veris*. 6.) The stem base of *Boletus aurantioruber* can be either bulbous or narrowed to a point while the stem base of *Boletus rex-veris* usually has a distinct root-like extension. Arora writes that a more detailed treatment of the *Boletus rex-veris* is in preparation. Perhaps even more differences will emerge.

The above photo depicts specimens found by the Kuhn brothers near Fish Lake in the Lake Wenatchee area last spring.

The GPS is not provided here. Suffice it to say that they can be found with lodgepole pine and ponderosa pine mostly from June to July in the eastern Cascades. We have also found them near river banks among vine maple.

Caps run from 5 ½ -30 cm. wide and are broadly convex to plane. At first they are rusty brick to a sort of rosy cinnamon color eventually becoming more ochre in age where exposed to sunlight. They are viscid only when wet, glabrous except for an irregular whitish bloom when young. The pore surface is white at first, soon becoming lemon yellow, and then a sordid mustard color in age. The pores are more rounded than angular, about two per mm. They darken slightly when bruised or turn an olive-brown. The tubes are olive-ochre in maturity and run up to 2 ½ cm. long. Stems range from 2 ½-10 cm. thick and 5-20 cm. long. They are equal to slightly clavate, almost always with a short radicating root at the base. They are a pale brick color at the apex fading to cream toards the base. Five out of every six specimens last spring had no surface reticulation. Those with reticulation had a pallid buff network on a brick ground at the apex, the reticulations becoming brick color over a pallid ground further down the stem. The form of these reticulations varies from rounded to angular. The context of cap and stem is white and does not change when bruised.

Photo by Vince Biciunas

Erin's now fabled *B. rex-veris*

Spores are olive-brown in deposit. They are ellipsoid to subfusiform with a prominent suprahilar depression, and measure 15-17 x 4.5-5 microns. Odor and taste are mild. *Boletus rex-veris* is usually associated with conifers, and as Arora emphasizes, it is a semi-hypogeous species, often revealing itself by just a hump in the duff.

Arora wrote that caps run up to 30 cm. wide, and occasionally larger. Last spring Erin Moore lugged one into camp that measured 35 cm. wide. Whether this is a regional record or a world record, we may never know. The range is just too far. Besides *Boletus aurantioruber*, other lookalikes include *Boletus mottiae, Boletus subcaerulescens,* and *Boletus chippawaensis. Boletus mottiae* differs by having a distinctly wrinkled or nodulose cap surface. *Boletus subcaerulescens* has a pinkish-brown cap and an olive-yellow pore surface that bruises gray-blue. And *Boletus chippawaensis* has caps with a pale lemon-yellow ground color and pores that bruise pinkish-cinnamon.

Boletus rex-veris is an excellent edible. The type specimen is from the former mill town of McCloud in northern California. Italian immigrants who settled there were the first to discover the bounty. For over 65 years they would collect it for family consumption. Then in 1985, a commercial market for it sprang up. The first commercial buyer on the scene was horrified to discover the locals raking up the duff to find specimens.

"But we've been doing it this way for 60 years," one of them explained. The buyer figured they must have survived the raking because the locals only raked gently along the surface, not disturbing the mycelium below. Today, the Spring King is an important commercial species. According to Arora, 25,000 – 60,000 pounds are harvested each spring from the Mt. Shasta area alone. Besides the commercial center in McCloud, others can be found in La Grande, Keno, and Sisters in Oregon, and at Trout Lake in southern Washington.

Almost every year that I can remember, Fien Hulscher has been our foray chef at Morel Madness. She probably brings her own butter and olive oil, but besides from that, pretty much relies on whatever herbs and spices others might bring. She graciously sautees whatever edibles we might find, and life might not be complete until you have sampled her sautéed squares of *Boletus rex-veris*. She carefully removes the tubes from the older specimens before cooking. But she does not throw them away, as I have always done. Instead she will take them home, dehydrate them, and then grind them up to use as a stew thickener or even a spice with other meals.

We finally end this article with the perspective of Bryn Dentinger, a Canadian mycologist whose work on the same species independently coroborated Arora's findings. He states, "Phylogenetically, *B. rex-veris* is most closely related to *B. fibrillosus* (unpublished data), another western species. They are both part of the 'pine-loving' clade most often represented by the European *Boletus pinophilus*". According to Nancy Weber, the Russian mycologist B.P. Vassilkov published many varieties of *Boletus edulis* in 1948 and then again in 1966. As far as she knows, they were all published legally, and if any one of them turns out to be the same as *Boletus rex-veris*, that name would have priority. Until then, we can thank both of our mycologists for working on the species concept and bringing this magnificent bolete out of the nomenclatural obscurity it has long been mired in.

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Delectable Recipes

Morels in Fettuccine with Asparagus & Ricotta Cheese *Recipe furnished by Morel Mogul (http:// morelmogul.com)*

1/2 cup minced shallot
1 tablespoon unsalted butter
3 tablespoons morel oil
1/2 cup dry white wine
1/2 cup chicken broth
1/2 pound fresh morels
1/2 cup heavy cream
6 ounces Ricotta cheese
3/4 pound asparagus, trimmed, cut into 1/2-inch pieces, and cooked in boiling salted water for 2 to 3 minutes, or until tender
1/4 cup minced fresh chives
3/4 pound fettuccine

In a heavy skillet cook the shallot in the butter over moderately low heat, stirring, until it is softened, add the wine, and simmer the mixture until the wine is reduced by half. Add the broth and the morels, sliced crosswise, and simmer the mixture, covered, for 10 minutes, or until the morels are tender. Add the cream and the ricotta cheese and cook the mixture over low heat, stirring, until the cheese is melted. Stir in the asparagus, the chives, and salt and pepper to taste and keep the sauce warm. In a kettle of boiling salted water cook the fettuccine until it is al dente, drain it well, and in a bowl toss the pasta with the sauce.

Morels Stuffed with Walnuts *Recipe featured in Wild About Mushrooms, The Cookbook of the Mycological Society of San Francisco, by Louise Freedman*

Serves 4 to 6 as an appetizer

Morels are great for stuffing--especially with bacon and walnuts.

2 shallots or green onions, minced
2 tablespoons butter
1/2 cup bread crumbs
1 bacon slice, cooked crisp and finely crumbled
1/2 cup chopped walnuts
1/2 cup heavy cream
Salt
10 to 15 large morels, sliced lengthwise

Image found at http://morelmushroomhunting.com/

Not the biggest one found in 2008, but a monster none the less!!
From the Annual Biggest Morel Contest held by the Morel Mushroom Hunting Club

In a sauté pan or skillet, sauté the shallots in the butter until translucent. Stir in the bread crumbs, bacon, and walnuts. Remove from the heat and mix in the cream. Add salt to taste. Stuff the morels, using your fingers. Place the mushrooms in a shallow buttered baking dish and bake in a preheated 450º oven for 20 minutes or until they turn brown.

Photo by Jack Waytz

The best *B. rex-veris* buttons out of the Great Boletus Outbreak of 2006. My haul was nearly 100 pounds!

Tagliarini al Porcini
Recipe furnished byWild About Mushrooms by Louise Freedman

4-5 shallots
2-3 large bolete stems, chopped
5 tablespoons butter
juice of 1/2 lemon
1 1/2 cups heavy cream
salt & pepper to taste
1/2 lb. fresh tagliarini pasta
Freshly grated Romano or Parmesan cheese

Saute the shallots and bolete stems in butter until hazel colored.
Add the lemon juice.
Add the cream, salt & pepper, and cook slowly for ten minutes.
Cook the pasta separately until al dente.

Pour the mushroom sauce over the pasta and sprinkle cheese on top.

Pappardelle with Rock Shrimp, Porcini Mushrooms, and Fava Beans *Recipe Provided by CliffordAWright.com*

This extraordinary preparation is a special spring dish. In this case, if you can manage it, everything should be homemade and fresh, the pasta, the shrimp, the porcini, and the fava beans. That means you should be thinking of making this recipe in May. Now, if that's just impossible then you can use store-bought tagliatelle or pappardelle, dried porcini, defrosted shrimp tails, crab, or lobster, and frozen peas if there are no fava. To peel the fresh fava beans drop them in boiling water for 5 minutes, then drain and pinch off the light green skin. Porcini mushroom season in Italy is during September and October, but in California, the porcini mushrooms are in season for about a month from mid-May to mid-June and they come from colder climes near the Oregon-California border.

Photo by Jack Waytz

Doug went out to the same area two days after my foray—and found a hundred pounds of his own!

Yield: Makes 4 to 6 servings
Preparation Time: 30 minutes

2 tablespoons unsalted butter
6 tablespoons extra virgin olive oil
½ small onion, finely chopped
2 large garlic cloves, finely chopped
½ pound fresh porcini mushrooms, thinly sliced or ½ cup dried porcini, soaked in water for 30 minutes, drained

¼ cup dry white wine
¾ pound fresh shelled rock shrimp or 1 pound defrosted shrimp tails, shelled
½ pound tomatoes, peeled, seeded, and chopped
1 ½ pounds fava bean pods, beans removed and beans peeled (yields 1/2 pound double-peeled beans)
Salt and freshly ground black pepper to taste
1 pound pappardelle or tagliatelle
3 tablespoons finely chopped fresh parsley

In a large casserole that can hold all the pasta, melt the butter with 4 tablespoons olive oil over medium-high heat, then cook the onion and garlic, stirring, until soft, 2 to 3 minutes. Add the porcini mushrooms and fava beans and cook, stirring gently, until the mushrooms soften, about 5 minutes. Add the white wine and once it has evaporated a bit add the shrimp and tomatoes, season with salt and pepper, and cook, stirring, until the shrimp are orange-red and firm, 3 to 4 minutes.
Meanwhile, for every pound of pasta, bring 6 quarts of water to a rolling boil over high heat, salt abundantly with up to 1/2 cup of salt, then add the pasta in handfuls. Cook over high heat, stirring occasionally so the pasta doesn't stick together, until al dente. Drain without rinsing.
Transfer the pasta to the casserole and toss gently with the shrimp and mushrooms until well blended. Drizzle on the remaining 2 tablespoons olive oil and sprinkle on the parsley, toss again, then serve.

Linguine with Black Truffles

1 (16-ounce) package uncooked linguine pasta - (If using as a first course dish, use 1 1/2 ounces pasta per person.)
1/2 cup plus 2 tablespoons truffle oil, divided
1/2 pound freshly grated Parmesan cheese, divided
1 tablespoon coarse salt or sea salt (fleur de sel)
1 tablespoon freshly ground black pepper or to taste
1/4 cup chopped fresh chives
Black truffles, shaved

Photo by Jack Waytz

Get 'em while they last!

Cook linguine pasta according to package directions to al dente; drain and return to pan to keep warm.

Toss prepared pasta with 1/2 cup truffle oil, 3/4 of the Parmesan cheese, sea salt, pepper, and chives.

To serve, place pasta in individual pasta bowls or plates. Drizzle the remaining 2 tablespoons truffle oil over the top and sprinkle with the remaining Parmesan cheese. Garnish with as many shaved black truffles as you can afford.

Serve immediately and enjoy! Makes 4 servings.

Recipe furnished by whatscookingamerica.net

Stop the Presses!!

Fresh truffles (pictured here) are available currently in abundance at Sosio's in the Pike Place Market in Seattle. The cost is $25.00 - $35.00 per truffle. A bargain for a mushroom of this rare quality!

***Hemipholiota populnea:* No longer in the Dark**

In our last newsletter, Jack posted a photo of a mushroom that we couldn't identify. Someone had brought it to the Fall Show. I then sent the description to Dr. Brandon Matheny in Tennessee, and he immediately identified it as *Hemipholiota populnea*. Many of you probably know it by its more familiar name, *Pholiota destruens*. It is quite unique because it grows on cottonwood and rarely on aspen and willow, and destroys the wood it feasts on.

Photo By Buck McAdoo

Perhaps a rarer variety with darker spores?

I was badly fooled by this mushroom because of the spore deposit color. Both Arora and then Smith and Hesler in their *Pholiota* monograph state that the spores are cinnamon brown. Now imagine going to your grocery store and grinding up some espresso beans. This is the color I found. All three of these guys can't be color blind, so possibly that is one reason why it was transferred to *Hemipholiota* from *Pholiota*. Section *Hemipholiota* in the *Pholiota* monograph includes species with thick fleshed caps, no pleurocystidia, non-dextrinoid spores, and stems at least one centimeter thick. All good. Now just add dark chocolate spores and we'll have the concept where it needs to be.

\- Buck McAdoo

A Noteworthy *Helvella*

In the past five years, Jack Waytz has found an interesting *Helvella* in the same location at the Stimpson Family Nature Reserve in November. This year he found two specimens. One was all white. The other had a white cap and a grayish-tan stalk. The white *Helvella crispa* is supposed to be an East Coast species. Richard Trank and I looked at it under the microscope. When we couldn't separate the gross microscopic features from *Helvella lacunosa*, I phoned up Dr. Nancy Weber. Here we discovered that *Helvella crispa* is not uncommon in the mountains of Idaho, and seems to be slowly moving north and westward, and has even been reported from British Columbia.

Photo By Buck McAdoo

Hell of a Helvella?

The specimens interested Nancy. She is our North American expert on the *Helvellaceae*. Some of the microscopic features seemed to indicate *Helvella crispa*, but the fact that the cap margin was joined to the stipe apex strongly indicated *Helvella lacunosa*, a normally black *Helvella*. The grayish-tan stem on one of the specimens also steered it away from *Helvella crispa*. What we probably have, she told us, was the extreme pallid form of *Helvella lacunosa*. She acknowledged that a lot more work needed to be done on the whole complex, but the work should originate in Europe where the concepts were first described.

\- Buck McAdoo

Close Encounter of the *Boletus* Kind at Bowman Bay *By Harold Mead*

As time passes and I continue to learn more about mycology, I have less certainty and more doubt. The genus *Agaricus* is a good example. I am still certain when I see a Prince, but I no longer feel I can positively identify most of the others. I am taking Arora's advice and including individual specimens into groups, not species. To quote Brian Eno, "I can no longer see the lines I used to think I could read between." In our culture we want to put things into boxes, to give them labels. Mycology is one of the things that is forcing me to realize the limits of this approach.

Photo by Harold Mead

For a long time I have tried to focus on things that are clearly definable while understanding that most things are not. Last November at the Bowman Bay foray, I encountered a mushroom which looked like it would be easy to identify and with some certainty give a label to. I felt this way because the specimens I found and collected had a striking appearance and very distinctive morphological characteristics. Not just another LBM or *Inocybe*, but something that would have attracted the eye and curiosity of mushroom hunters before me.

Here is a brief description. The mushroom occurred at the margin of a bald in moss and lichen on thin soil over rock. The associated trees were 2-needle pines, *Pinus contorta*. I found three specimens, all about the same age, not yet fully mature. They were *Boletus* with a bright orange pore surface. They were about (7 – 8 cm) tall. The cap was a broad bell (4 – 5 cm) wide with a mostly smooth surface and some brownish fibrils. The exposed flesh was a vivid orangish yellow. The margin of the cap was distinctly bearded (tomentose). The stalks were (1.5 – 2 cm) wide just below the cap and broader (2 - 3 cm) at the base. The stem and pore surface had conspicuous clear to whitish glandular dots. Sliced lengthwise the mushroom had solid creamy white flesh. The only staining observed was at the very margin of the base of the stalk, which very slowly acquired a pale violet hue. The three specimens I collected were very consistent in this morphology.

Needless to say, I was quite excited by the find. After returning to the shelter I saw that even though mushrooms were less abundant at this foray than usual, a good number of unusual specimens had been found. I did my best to help identify specimens. I find the identification process, and teaching others are the best ways to learn more. I showed my prize to Buck who tried to key it in a *Suillus* monograph; it didn't really fit. Larry looked at it and thought it was *Suillus tomentosus* or *subtomentosus.*

Photo by Harold Mead

With so many other interesting things to look at and learn about, I set my find aside. When it was time to clean up, I came back to the *Suillus* key and looking there again forced me to the conclusion that there must be something wrong with the key, or something wrong with the mushroom, or something wrong with me because I couldn't come up with a label. Meanwhile two of the specimens had been lost, discarded in the piles of soggy things.

I took the remaining specimen home and pondered it. How could this distinctive specimen defeat my desire to give it a label? I called Buck to bug him some more, but he was busy. He had to drive to Utah the next day to buy tires or something like that, but he contacted Joe Ammirati, the lead mycologist at the University of Washington, to ask him for help with my specimen. Joe e-mailed me and asked for photos. I used the only digital camera I have and sent him some low magnification pictures and the dried specimen. I must say that he was quite welcoming in his communications with me.

Two weeks later I went back to scene of crime and found another three specimens.This time I was more careful in my observation of the habitat, etc. The new collection was about the same stage of development and very consistent with the morphology of first set. In hindsight, I should have left at least one and allowed it to mature more and gone back later. I took them home and dusted off the OM 4T and managed to take a few good slides. I recently got the film developed and had a couple of the slides scanned. So here they are for your viewing pleasure. Meanwhile, I ought to get these pictures and the additional dried specimens down to Dr. Ammirati at the University of Washington.

I have spent a fair amount of time since then looking at pictures of mushrooms on the internet. I figured that if the keys don't fit for this mushroom, then looking at pictures can't hurt, especially with such a distinctive morphology. Some useful sites are Mykoweb, the fungi of California, MushroomExpert.com, and MushroomObserver.org. From what I have seen online I am pretty sure that it is not *Suillus tomentosus* due to the lack of blue staining and differing morphology. There are some pictures of *Suillus tomentosus* that are quite similar to the specimens I found, but the ornamentation of the cap surface is very different. If you look at mushroomer observer. org there is a picture of a collection made by Nathan Wilson, at Copper Mountain, Colorado that looks just like what I found. These may be mistakenly identified as *Suillius tomentosus* at that site. Anyway, the pictures are really cool, especially the glandular dots that extend onto the pore surface. ###

Fred's Page

Back by popular demand? Planning ID classes for the fall

The ID class meetings for club members last fall were informative and fun. In order to plan for a set of similar classes this fall, we need to know how much interest there will be. We anticipate a similar arrangement to last year with 5 or 6 weekly classes in the evening leading up to our Mushroom Show on October 19. Meeting space is at a premium in Bellingham this year so we need to plan now to plan for a location. Depending on the venue and size of the class the cost would be between $15 and $25 for the series. Again, we will limit the numbers to about 20-25 people. Members of last year's class would be welcome to repeat once we satisfy the demand by any club members who have not yet had a chance. If you think you may be interested, please email or phone me (address and phone below) and let me know which days of the week are not good for you. Your response does not obligate you to take the class. Also, there will be a future notification once we determine the details for folks to sign up permanently.

I have also talked to a number of people about the possibility of a microscope class. This would focus on the methodologies of microscopy particularly as they pertain to gathering microscopic information about mushrooms. Topics covered would be microscope theory and technique, staining, making appropriate thin sections, and observing, describing and measuring spores and other microscopic structures. You would not need to own a microscope to take this class as we would hold it in a lab either at WWU or WCC through Continuing Education. Because of this affiliation the class would require a cost of about $75-$125. I am in the process of investigating the various possibilities and will have the details in the next newsletter. If you think you would be interested, let me know, specifying the microscope class. Again, let me know which days of the week are not good for you. In order for this class to fly, I would probably need about 10 to 12 definite class members. It would be okay to take both classes. Fred Rhoades, fmrhoades@comcast.net, 733-9149

Lichens of Lopez Island in the San Juans

The Washington Native Plant Society is pleased to announce publication of the ninth in its series of "Occasional Papers." These monographs, published in soft-cover book form, are intended to increase appreciation and awareness of the incredible diversity of Washington's flora.

Lichens of South Lopez Island, San Juan County, Washington State by Fred Rhoades provides an in-depth glimpse of lichens as they occur in the San Juan Islands. Dr. Rhoades, instructor and mycologist/lichenologist at Western Washington University, (and science advisor for our mushroom club) conducted a survey in 1998 of the lichens he found on two BLM properties (Point Colville and Iceberg Point) on the southern reaches of Lopez Island. This paper is an update of that survey. It features a general background on lichens, including a glossary of commonly used terms, background on the geology and vegetation of the area, and site descriptions which depict the variety of habitats at these locations. The text reviews some 190 species of both "macrolichens" and "crusts," including comments on each species' habitat, any special status or rarity, and comparisons to other studies in the region. The report documents the first occurrence of 17 crustose species for Washington State (or from the area west of the Cascades) and one new to North America. Dr. Rhoades also discusses human impacts upon this very special ecosystem.

The book is richly illustrated with some 89 color images of habitats, and several of the common and not so common lichen species. Copies can be ordered at the WNPS website (www.wnps.org) where a link to this publication will appear under What's New. You can purchase online with a credit card using PayPal or order by mail or telephone to the WNPS office. The cost, including shipping and handling, is $15.

Mushrooms, Russia, and History

In case you didn't see it on the Mycology Listserve, this is a wonderful opportunity to get a digital copy of this incredible (and up to now, rare) book. For the first time since its original publication by Pantheon Books in 1957, Robert Gordon and Valentina Pavlovna Wasson's "Mushrooms, Russia and History" is available for download, free of charge, thanks to the New Alexandria archive. A text once limited to rare book rooms, collectors, or those with the disposable capital sufficient to purchase a personal copy (often on the order of $2500 per volume), is finally available with the desire to learn as the only requirement for access. The link to the pdf files can be found here: http://www.newalexandria.org/archive/ Please share and enjoy this monumental work in ethnomycology. Fred

Depiction by G. Kibby

An Ancient Mystery Solved?

What's nine meters high, 400 million years old and more than a little strange? *Prototaxites*, a weird Silurian/Devonian organism that has puzzled scientists for years, has recently been the subject of an intensive study by a group of researchers based at the University of Chicago and the National Museum of Natural History in Washington, DC.

Prototaxites lived worldwide from approximately 420 million to 350 million years ago. During this period Earth looked quite alien in comparison with the modern world. Simple, vascular plants, the ancestors of today's conifers, ferns, and flowering plants, had only just begun to diversify on land.

Originally classified as a conifer, scientists later argued that it was instead a lichen, various types of algae, or a fungus. It had tree-like trunks up to nine meters (20 feet) tall, making it the largest known organism on land in its day (artist's impression above). " No matter what argument you put forth, people say, well, that's crazy. That doesn't make any sense," said C. Kevin Boyce, Assistant Professor in Geophysical Sciences at Chicago. "A 20-foot-tall fungus doesn't make any sense. Neither does a 20-foot-tall algae (*sic*) make any sense, but here's the fossil."

The paper published in the journal *Geology* adds a new line of evidence indicating that the organism is a fungus. The fungal theory first emerged in 1919, and Francis Hueber of the National Museum of Natural History in Washington, DC, revived the idea in 2001. His detailed studies of internal structure have provided the strongest anatomical evidence that *Prototaxites* is not a plant, but a fungus. Now the group have produced independent evidence that supports Hueber's case. The team did so by analysing two isotopes of carbon contained in *Prototaxites* and in the plants that lived with it. Any given plant will generally contain a similar ratio of carbon-12 to carbon-13 to another plant of the same type. "But if you're an animal, you will look like whatever you eat," Boyce said. And *Prototaxites* displayed a much wider variation in its ratio of carbon-12 to carbon-13 content than would be expected in any plant.

As for why these strange organisms grew so large, the relatively simple Devonian ecosystems probably contained little to prevent them from growing slowly over a long time. Plant-eating animals had not yet evolved.

—Article and illustration furnished by Geoffrey Kibby of the British Mycological Society's quarterly publication, Field Mycology, Volume 9 (2) April 2008 .

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