

### MESSAGE FROM THE PRESIDENT

Here it is, winter with snow covering the ground, the mushroom baskets and identification manuals put away. That compass and pocket knife placed in some drawer along with the park maps and maybe a few spore prints on top of them, guaranteeing they will remain well-hidden until it's time to look for them again. I start thinking of what spring will bring. With my back aching from shovelling the large snow drift in front of me, I ponder about the fungus in the soil below it. My thoughts drift to where I imagine the snow covering my favorite morel spot, melting in the spring sunshine. Suddenly the shovelling is getting easier and I'm hoping for more snow to fall. Maybe it will bring a bountiful harvest, a cornucopia of *Morchella* which I scoop up much like the shovelful in front of me. Then, at that moment, the city plow goes past me dumping four feet of wet slush at my footstep. A quick thought of the forest at Point Beach and how dry it was there this last fall and I'm back to thinking about mushrooms and water.

You can see mushrooms in winter at the Society's Slide Mixer Night. I like to reinforce my thoughts about mushroom hunting while the winter storms are occurring around us. I was amazed at how the few mushrooms that were picked at the forays this year generated so much discussion. Part of the fun of these gatherings is seeing what other people have gathered and, collectively, there seemed to be a very good variety, albeit not much to take home. Perhaps a good winter with heavy snow cover would help ... then maybe not as I see the city plow is making another run at my driveway. Hope you have a great holiday and I look forward to seeing you at the winter meetings.

Bill Blank

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### UPCOMING EVENTS

January 14th — Annual Slideshow/Mixer (announcement enclosed)

February 12th — Lecture by Gunnard Jacobson on the history of the human relationship with yeast

March 11th — Slide/Lecture by Dan Lindner on *Entoloma* and *Armillaria*

April 7th — Mushroom dinner at HEAVEN CITY

April 23rd — Slide/Lecture by Alan Parker on morels

All of the above events (except the dinner) will be held at the Mitchell Park Pavilion and members will receive separate announcements for them.

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### ANNUAL DUES

Please note that your 1997 WMS dues notice is enclosed with this newsletter. Also note that the Single (\$10) membership category has been eliminated, and that now there is only one \$15 membership category for either singles or families. The Board of Directors made the decision to eliminate the \$10 category as the average cost of a membership has been over \$10/yr. For a chance to win a field guide, please fill out the quiz on the back of the dues notice.

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### WHETTING YOUR APPETITE

by John Steinke

I am probably not the best person to write a review on the April 24 mushroom dinner. It could end up being quite brief, if it gets written at all. It was German style food with plenty of mushrooms and more importantly, 24 other mushroom

enthusiasts. A perfect night, end of review.

I (knowing myself as I do) knew I would have that attitude when I sat down to write this review. So I enlisted the help of the WMS members at my table. Sunny and Norm Rupnow sat at my left, Warren Siskoff sat across from me and Alan and Linda Campbell sat across from the Rupnow's. The first dish to be set before us, *Vol Au Vent Aux Champignons*, everybody gave an A +. It was described as a puff pastry filled with white mushrooms in supreme sauce. This was a very good dish to peak a person's appetite, but when I had finished my serving I caught myself sizing up Sunny's progress.

The next item set before us was the *Shiitake Mushroom Salad*, shiitake mushrooms and tomatoes vinaigrette in napa leaf. This the group gave a B. There was some discussion about the kind of vinegar and the quantity.

Next came the *Consomme Forestiere* with black forest ham and oyster mushrooms. This had a true German smoked ham flavor and aroma that sent me back to my childhood. For some reason we as a group did not grade this course. I gave it an A on all counts except substance. I have a real problem eating things like jello and thin soups. I have always enjoyed eating, and to me that is sinking your teeth into something.

Our next course was *Jaeger Schnitzel*, schnitzel with sauteed portobello mushrooms, accompanied by *Noodles and Vegetables*. Now this was eating. I had this one time in Germany and I was really looking forward to this serving. Our group gave this an A. It was a nice-sized serving, well presented and Schnitzel, portobello, and zucchini, individually, brought something to this serving.

The dessert course, *Strawberry Schaumtorte*, was good but everybody was pretty full by this point. Maybe we should have had jello, NOT!

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### MONCHES FORAY — Sept. 7, 1996

On September 7, a small band of mycophiles met at Monches to explore the Ice Age Trail. It had not rained significantly for some time and we were driven by hope without evidence. As soon as we got into the woods, however, our hope was vindicated. Here and there were variously colored *Russulas*, a couple of *chanterelles*, and a few *Laccaria*. By the end of the foray our species list had two dozen entries with many more unidentified. The edible species that we found the most of were *Laccaria ochropurpurea* and *Cantherellus cibarius*. No 'large' edibles were found, but we did find several large handsome specimens, including *Polyporus radicata*, *Climacodon septentrionale*, *Tricholomopsis platyphylla* and *Strobilomyces floccopus*.

Everyone had a very enjoyable time walking through the woods, talking and eating wild blackberries, which were plentiful along parts of the path. When we got back, as we ate our lunch we had an opportunity to listen to Chuck Soden ramble on about each mushroom — identifying it, pointing out what to look for in its identification, and more often than not, throwing in a personal experience concerning the species. In the end, everyone came away with a couple of new species of mushroom, either to take home to eat or to look for the next time they went out.

As foray leaders, Colleen and I would like to thank Chuck Soden, Chuck Fonaas, Tula Erskine and everyone else who shared their mushroom experience.

Peter Vachuska

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### MAUTHE LAKE FORAY — Sept. 14, 1996

It was a cold, windy overcast day. If the temperature would have dropped another 20 degrees, we could have been hunting snowballs instead of puffballs.

Approximately 30-35 hardy souls braved the elements in the pursuit of elusive mycological finds.

Finding *Suillus sphaerosporus* was interesting. This *Suillus* species is found only in the Great Lakes region of the United States. Only one other bolete, which seemed to be either *Suillus* or *Fuscoboletinus*, was found.

*Hygrophorus* species seemed to abound with finds of *H. conicus*, *H. eburneus*, *H. russula*, *H. coccineus* and *H. cantherellus*. These colorful mushrooms are usually small with waxy gills and are always a thrill to find. We also collected some colorful bright orange *Clavulinopsis fusiformis* and *Pycnoporus cinnabarinus*.

One collection that stood out was that of some fairly good-sized, almost pure white, gilled mushrooms. There was some discussion about whether these were *Leucopaxillus albissimus*. However, they seemed to be fairly thin-fleshed and so were more likely to be *Clitopilus prunulus*.

Several toxic mushrooms were also found, including *Naentoloma fasciculare* and *Paxillus involutus*. Since this happens at almost every foray, it serves as a good reminder that we should always be cautious when collecting mushrooms for food.

Sometimes the thrill of a foray is not the mushrooms that are found and identified but the ones that were not. A large clump of immature, very bulbous white stemmed mushrooms was brought in. The cap was very small in relation to the stem. The caps were light brown, the flesh firm. At first glance, they would seem to have been *Lyophyllum*, but the shape was wrong. They could have been *Entoloma*, which has pink spores; however, the *Clitocybe subconnexa* group has pinkish spores also. They were never identified.

Some specimens similar to *Albatrellus* were brought in. *Albatrellus* species have stems and caps which separate them from most polypores. The tubes do not separate easily from the cap as they do in boletes and the flesh is also much firmer.

After a foray, the mushrooms identified and catalogued are tucked neatly in your memory. It's the ones that you can't quite figure out that keep you looking well past mushroom season. Maybe that's why we have such a long winter in Wisconsin — so we have time to try and solve the mysteries of mushrooms that seemed to elude us in the fall.

Chuck Soden

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### PIKE LAKE FORAY — Sept. 28, 1996

A recent rainfall had dampened the ground in and around the park and it looked like the mushroom hunting might be good. Alas, very few mushrooms were found by the group of fifteen or more. According to sources at the ranger station it had been a very dry August and September. Even though the entire collection of mushrooms from the foray could be placed on a large boulder in the parking lot, there were a few surprises. Several large specimens of *Polyporus radicans* were found with the largest cap being over a foot in diameter. Too bad it isn't an edible. Some nice looking examples of lobster mushroom (*Hypomyces lactifluorum*), birds' nest fungi (*Crucibulum laeve*), dead man's fingers (*Xylaria polymorpha*) and turkeytail (*Trametes versicolor*) filled the nooks and crannies of the boulder along with some collections of honey fungus (*Armillaria mellea*), velvet stem (*Flammulina velutipes*) and from a different location, some wood blewits (*Lepista nuda*).

Among the unidentified mushrooms one stood out as a perplexing *Amanita verna-virosa* look alike — white cap, white stem and white gills confounded us as we searched for an annulus or ring around the stem near the cap. None was to be found nor was there any evidence that one had ever existed. The most unusual part of the mushroom was the cup at the bottom of the stem. It was as thick as shoe leather and looked like the broken half of an egg shell. We speculated that what we had here was an *Amanita verna-virosa* (destroying angel) that had a thick cup, maybe from the dry weather and had no ring. A spore print changed all that. A week later I brought what remained of the mushroom to the fair at the Museum. The cup had dried onto the stem and almost disappeared, the gills turned tannish-pink and the spore print was tan to pink. The cup ruled out its being a *Lepiota naucina* and *Amanita*'s have a white spore print. *Volvariella* species fit in. It's almost downright scary how this mushroom mimics the appearance of a destroying angel. I can see how people from Asia who have eaten *Volvariella* (the paddy-straw mushroom) in their homeland, come here and get poisoned with *Amanita*. David Arora mentions in his book Mushrooms Demystified that *Amanita* can have pinkish gills in old age too. *Volvariella* and *Amanita* are too similar, and too bad if you are mistaken.

I would like to thank the person who picked this mushroom for giving it to me at the fair. I can't recall who it was but please mention it to me at some future meeting. I'd like to know where it was picked if that's possible. Hopefully, those at the foray will remember seeing this mushroom. The very fact that any mushrooms were found at all revealed the tenacity and enduring interest our group has in mushroom hunting.

Bill Blank

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### **MUSHROOM FAIR**

The 13th Annual Mushroom Fair was held on Sunday, October 6, at the Milwaukee Public Museum. Even though we had to compete with nice weather and the Packer-Bears game (attendance was 561 paid admissions for the entire museum), the Fair went over well.

This year the Fair was held in an area adjacent to the former museum entrance, rather than in its usual spot in Uhlein Hall, which was being used for the cafeteria during museum renovation. While this area was somewhat smaller than Uhlein Hall and we were unable to have cooking demonstrations, the lighting was much better.

Another thing that was different this year was that the Mushroom Fair was graced by a special guest, John Baxter. Dr. Baxter taught mycology for many years at the University of Wisconsin-Milwaukee, and was one of the presidents of the earlier Wisconsin Mycological Society which existed in the 1960's and 1970's. Dr. Baxter is retired now and lives in Wyoming, but he is still a member of the Wisconsin Mycological Society. Our current president, Bill Blank, took a mycology course from Professor Baxter and feels this significantly encouraged his interest in mushrooms.

The Mushroom Fair is the principal public event for the Wisconsin Mycological Society and gives the Society exposure and a chance to sell itself and attract new members. Thanks go to the following people who helped out with this year's fair: Peter Vachuska, Colleen Vachuska, Tula Erskine, Chuck Soden, Chuck Fonaas, Sami Saad, Ray Llanas, Martyn Dibben, Dave Menke, Bill Blank, Cheryl Rausch and to any volunteer whose name I may have overlooked.

Kevin Lyman, Botany, Milwaukee Public Museum

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### **SANTA CLAUS MAY FLY BY MUSHROOM POWER**

The following is taken from an article titled "Father Christmas Flies on Toadstools" that appeared in the 25 December 1986/1 January 1987 issue of New Scientist: Jonathan Ott, an American author, suggested in 1976 that use of the fly agaric in the midwinter festivals of deepest Siberia may have inspired some of the imagery of Santa Claus. The winter dwelling, or yurt, had a smokehole in the roof, supported by a birch pole. At the midwinter festivals, the shaman would enter the yurt through the smokehole, perform his ceremonies and ascend the birch pole and leave. Santa Claus is robed in red and white, the colors of the fly agaric. He enters and leaves by the chimney, and he has reindeer. Santa Claus also flies, an accomplishment that he shares with a shaman. In Central Europe the fly agaric is linked with chimney sweeps, who have adopted it as their emblem, perhaps echoing the Siberian ritual. The fly agaric has appeared on Christmas cards in central Europe for a long time. In Kocevje, in southern Yugoslavia, people believe that on Christmas night, Wotan, the king of the Gods, rides through the woods on a white horse, pursued by devils. The red-and-white flecks of foam from the horse's mouth fall to the ground and grow into next year's crop of fly agaric.

Alan Parker

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### **THE TOP TEN REASONS I DON'T COLLECT MUSHROOMS IN WINTER**

by Bill Blank

- 10. Cross-country skis tend to clip off the caps before you can pick them.
- 9. I tried in vain to get the highway department to throw in pepper during salting operations.

- 8. The giant puffballs are hard to see among the snow-drifts.
- 7. My tongue keeps getting stuck to frozen honeys.
- 6. You see man on back of snowmobile more often than man on horseback.
- 5. There are too many flakes in the woods.
- 4. The destroying angels have been banished by good angels who sit on top of trees.
- 3. It's the wrong time for fruiting bodies, but the right time for frozen bodies.
- 2. The snowsho'ers got to them first.
- 1. The freezer is already full of frozen mushrooms.

## MYCO-BRIEFS

- Scientists at Cornell University have recently connected two different fungi as being one. The drug cyclosporin is produced by a fungus *Tolypocladium inflatum* and is the least toxic immunosuppressant known and is widely used in organ transplant operations. Of cyclosporin, Bryce Kendrick in The Fifth Kingdom says "This substance or its derivatives also hold out some hope for treatment of severe auto-immune diseases like some kinds of juvenile diabetes, rheumatoid arthritis, multiple sclerosis, myasthenia gravis, aplastic anemia, Addison's disease, and systemic lupus erythematosus."

The problem was that *T. inflatum* was only known in its asexual state which is not conducive to genetic change. Now scientists at Cornell University, while looking at a *Cordyceps* found growing at a nearby state forest on dung beetle larvae, have identified the sexual state of *T. inflatum* as *Cordyceps subsessilis*. *C. subsessilis* has only been reported 5 or 6 times before.

With more information about the life cycle of this fungus and what triggers sexual reproduction, scientists should be able to introduce genetic changes that could improve both the quality and quantity of cyclosporin produced. (Milwaukee Journal Sentinel, Sept. 30, 1996)

- Leaf-cutter ants are tropical insects that slice out portions of plants which they make into compost to fertilize "gardens" where they grow fungi for food. The ants take very good care of their fungal gardens by maintaining the proper temperature and humidity and secreting chemicals to keep them free of bacteria. In addition to these things, though, it has recently been determined by several Welsh biologists that the ants also deliberately prune their crops to increase yields. The ants evidently lick the mycelial threads of the fungus which breaks off bits of the mycelium which in turn promotes further growth. According to the researchers, giving the fungus garden a mere three hours of attention from the worker ants led to a 30 increase in yield over an ant-free garden. (The Economist July 6, 1996)
- Pelleted fungal inocula are useful in bioaugmentation of soils containing hazardous organic substances. The inocula are sensitive to growth suppression by substances such as pentachlorophenol that contaminate the soil. The fungal inocula have a pelleted core with a nutrient source, a binder, a carrier and a lubricant entrapped in a layer of fungal mycelia. The pelleted fungal inocula are low in moisture content and are capable of resisting attack from indigenous soil bacteria and fungi. (Applied and Environmental Microbiology June 1996, as abstracted in INFOTRAC)

## Mushrooms 101 BOLETACEAE

by Brian McNett

reprinted from MYCOINFO 9/13/95

As always, this is merely an introduction to the major genera. I can't go into enough detail in this space to allow one to identify to species. This is not a substitute for a good field guide and isn't intended as such.

Boletes are one of two groups of fungi that produce their spores in tubes. Once, all boletes were lumped into one massive all-encompassing genus, *Boletus*, much like the agarics were once lumped together into a single genus, *Agaricus*. Just as we still call gilled mushrooms "agarics", mushrooms with a sponge-like tube layer are still all called "boletes", and not just those in the genus *Boletus*.

The Latin word “boletus” more than likely originally referred to the mushroom we know today as *Amanita caesarea*. How the term came to its current usage is largely a matter of speculation.

Polypores, which also possess a tube layer, are tough or leathery, and typically grow on wood. The fleshy, terrestrial polypores (such as *Albatrellus*) usually have an off-center stalk, and tubes which cannot be easily detached from the cap.

In general the features to look for in identifying boletes are the same as those for identifying agarics. However, it’s important to note color changes on the cap, stalk, flesh and pore surface. Some boletes develop cracked (areolate) caps as they mature, exposing the flesh beneath (as with *Xerocomus chrysenteron*, in which the cracked cap is an identifying feature).

Spore color ranges from yellow to olive, brown, red-brown, chocolate brown, or black. Arora claims that the handsome spores of boletes are “...somewhat reminiscent of a surfer with a good tan”. I can’t attest to that myself, but the large, long, elliptical to spindle-shaped spores have got to be one of the more convincing arguments for buying a microscope.

Bolete hunters are faced with a plethora of competitors in the form of maggots. Boletes are also prey to a variety of molds, which make a meal out of the entire fruiting body, leaving nothing for you. Always clean your boletes in the field, and discard any moldy ones.

#### *Suillus*

These are medium to fairly large fleshy, terrestrial boletes. They are almost exclusively mycorrhizal to conifers (although three hardwood loving species occur in eastern North America). The cap is typically viscid or slimy (although sometimes dry and scaly). Pores are white to yellow, often large, and sometimes radially arranged, only rarely do the pores stain blue. Spore print is usually some shade of olive-brown becoming lighter as the spores lose moisture. The stalk is generally more or less equal, often with brown to pinkish glandular dots and smears. A veil is frequently present forming an annulus (ring) on the stalk, but often absent in many species.

Although no *Suillus* are known to be poisonous, there are the occasional idiosyncratic “allergic” reactions. Most field guides recommend peeling away the slimy cap cuticle. Arora suggests using them as a substitute for escargot. There are some 70 odd species in North America alone, and more worldwide.

#### *Fuscoboletinus*

A small offshoot of *Suillus*, known mainly by its darker spore color, lack of glandular dots on the stem, and association with larch or tamarack. Veil is present. Pores are pallid, yellowish, gray or grayish-brown. In North America, *Fuscoboletinus* occurs mainly in the eastern US and Canada, its geographic range corresponding closely to that of its main host. Spore print is dark grayish-brown, dark red-brown, chocolate brown, or chocolate-gray

#### *Gyroporus*

Small to medium sized terrestrial boletes with typically dry caps; pallid whitish to pale yellow or yellow pores; stalk without glandular dots, reticulation (netted patterns), or scabers, usually hollow at maturity (at least at the base); veil absent or at best rudimentary; pale yellow to yellow spores. This small genus is apparently not very common in North America, but quite popular in Eastern Europe

#### *Pulveroboletus*

This fungal oddity is something you may not ever encounter (although see the following article). Arora narrows his definition to include only ONE species. Other mycologists recognize two or three species. The young caps are covered with a powdery bright yellow veil that normally leaves remnants on the cap margin rather than forming an annulus. The long slender stalk is also indicative. The flesh stains blue slowly.

#### *Tylopilus*

As a genus, *Tylopilus* isn’t common in the Pacific Northwest (although some species do occur), hence my unfamiliarity. They are a common component of our eastern forests, however. They are typically medium size to large terrestrial boletes with dull colored caps, pallid, pinkish, vinaceous, gray or brown pores, fleshy stalks sometimes with

reticulations but not dotted, or with scabers. Veil is absent. Spores are flesh colored, pinkish-brown, red, brown, cinnamon-brown, vinaceous brown, or chocolate brown.

### *Leccinum*

*Leccinum* is distinguished by the presence of tufted hairs or smallish rough scales (scabers) on the stalk. Unlike the glandular dots of *Suillus*, these scabers protrude from the stem, giving it a roughened appearance. The cap is usually some shade of orange, reddish-brown, brown, or white. The pores are typically white or dingy colored, not yellow or red and do not stain blue, although the stalk may stain blue when handled. *Leccinum* is a good beginner's bolete (no known poisonous species, rarely inhabited by maggots). Most species can only be distinguished with a microscope, but the distinctions are largely academic if you're collecting for the table.

### *Strobilomyces*

A small genus, easily recognized by its shaggy or scaly, gray to black fruiting body. It's so unique it often gets placed in its own family, the Strobilomycaceae.

### *Boletus*

Once you've ruled out *Suillus*, *Fuscoboletinus*, *Leccinum*, *Pulveroboletus*, *Austroboletus*, *Boletellus*, *Gyroporus*, *Strobilomyces*, or *Gastroboletus*, then what you have is probably *Boletus*. Some smaller boletes with a minutely velvety cap are often grouped into the genus *Xerocomus*. These are more cosmopolitan than other "Boletus", tend to have a longer fruiting season, and are difficult to identify without resorting to chemical or microscopic tests.

The larger boletes break up into those with white pores when young, those with red pores, and those with yellow pores. The stem is usually thick, often bulbous at the base, and often reticulate. In a relative sense, the various species are easy to distinguish in the field, though I've run across enough variation, and even a few oddballs that don't key out properly. Even in the restricted, modern sense, the genus is HUGE!

From an edibility standpoint, it is best to avoid those species which have red pores, and those that have blue-staining flesh (although there are exceptions, they should be left to those with greater experience). The remaining boletes contain a few species which are either bitter, or peppery/acrid, but can easily be avoided. If you're really dedicated to bolete hunting, you may want to look into a field guide specific to boletes.

With the above, I've barely brushed the surface. The Boletaceae represent some of our most fascinating fungi, not to mention some of the most delicious.

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## **PULVEROBOLETUS: A RARE FIND IN THE GREAT LAKES**

by Steve Nelsen

Adrienne and I seemed to go out of our way to find dry places to look for mushrooms in 1995, and we spent the week of July 30-August 5 at Porcupine Mountain State Park near the northwestern corner of the upper peninsula of Michigan. Our most interesting mushroom find was *Pulveroboletus ravenelii* (Berkeley and Curtis, 1853) Murrill, 1909. It is absolutely unmistakable when young, because it has a unique copious bright yellow cottony veil covering both the cap and the rather long stem. The veil eventually rips, exposing the initially yellow pores (which bruise greenish blue before they turn dark), and breaks up and falls off the cap, leaving a tacky fibrillose surface which turns reddish brown in age. This species was first found by W. H. Ravenel along the Santee Canal in South Carolina, and is most abundant in the southeastern U.S. [[N.S. Weber and A. H. Smith, A Field Guide to Southern Mushrooms, Univ. Michigan: Ann Arbor, 1985, p. 68.](#)] It is widely distributed but rather rare in the northeastern U.S. In Michigan it is most common near the southern shore of Lake Superior [[A. H. Smith and H. D. Thiers, The Boletes of Michigan, Univ. Michigan: Ann Arbor, 1971, p. 379.](#)] (the only ones we found in a week were on the nature trail at the PMSP visitor center, about a half a mile from the lake), and it was found by J. J. Neuman at Ladysmith and at Devil's Lake in Wisconsin [[J. J. Neuman, The Polyporaceae of Wisconsin, Wisconsin Geological and Natural History Survey, Bulletin XXXIII, State of Wisconsin: Madison, 1914.](#)] *P. ravenelii* is unknown from Europe, but has been found widely distributed around the Pacific Ocean (California, Japan, China, Malaya, Singapore, and Borneo); so it gets around!

*Pulveroboletus* was defined by Murrill, who focused on the unique veil, and by this definition, *ravenelii* is the only

species which occurs in the Great Lakes area. In a rather surprising nomenclatural gambit, Singer (a vigorous `splitter', who generally liked small genera) decided he would redefine this genus in 1962. Moser [[M. Moser, Keys to Agarics and Boleti, English translation by Simon Plant \(of the 1978 edition\), Phillips: London, 1983.](#)] apparently follows Singer's definition, although he calls it *Pulveroboletus* Murrill (including *Buchwaldoboletus* Pilat), not mentioning Singer. There is no mention of veils at all in Moser's genus description, but instead the primary distinguishing feature of this now quite different genus is the formal character of the presence of a yellow pigment which leaches out of the hymenium into ammonia solution. By this definition, there are three species of *Pulveroboletus* in Europe, *cramesus* (Secr.) Sing., *hemichrysus* (Bk. and Curt.) Sing., and *lignicola* (Kbch.) Pilat, all of which also occur in the U.S., and at least half a dozen other U.S. species. Smith (a vigorous `lumper', who usually went out of his way to maintain his genera as large as possible) does not accept this redefinition of the genus, places Singer's new *Pulveroboletus* species in at least four different sections of *Boletus*, and states with an almost audible sniff that Singer's concept "includes a rather miscellaneous assortment of species."

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### RECIPE:

#### Mushroom and Butternut Squash Lasagne from Eating Well Magazine (Sept/Oct 1996)

- 12 oz. dried or 1 lb. fresh lasagne noodles
- 10 sun-dried tomatoes
- 3/4 cup dried porcini mushrooms (3/4 oz.)
- 1 1/3 cups low-fat milk
- 3 tablespoons plus 1 teaspoon all-purpose white flour
- 2 oz. reduced fat cream cheese (3 tablespoons)
- 1 cup prepared spaghetti sauce
- 2 teaspoons balsamic vinegar
- Salt and freshly ground black pepper to taste
- 2 teaspoons olive oil
- 1 onion chopped
- 1 small carrot chopped
- 2 cloves garlic minced
- 12 oz. fresh mushrooms (wild and/or cultivated), sliced
- 1 1/2 teaspoon chopped fresh rosemary or 1/2 teaspoon dried
- 1/2 cup freshly grated Parmesan cheese
- 1/2 pounds butternut squash, peeled and thinly sliced (4 cups)

1. In a large pot of boiling salted water, cook noodles until barely tender (8 minutes for dried, 1 minute for fresh). Drain and rinse under cold water. Spread the noodles on clean kitchen towels, cover with plastic wrap and set aside.
2. In a small bowl, combine sun-dried tomatoes and dried porcini mushrooms. Add 1 cup boiling water, cover and let stand for 10 minutes. Lift out the tomatoes and mushrooms and chop. Strain the soaking liquid through a fine sieve and set aside.
3. In a saucepan, heat 1 cup of milk over medium heat until steaming. Meanwhile, put 3 tablespoons of flour in a small bowl and gradually whisk in the remaining 1/3 cup milk until smooth; whisk into the hot milk and stir constantly over the heat until the sauce comes to a simmer and thickens. Continue cooking and stirring for 1 minute. Remove from the heat. Whisk in the cream cheese, then 2/3 cup spaghetti sauce and vinegar. Season the sauce with salt and pepper; set aside.
4. In a large nonstick skillet, heat oil over medium-high heat. Add onions, carrots and garlic and saute until soft, about 2 minutes. Add fresh mushrooms, rosemary and the reserved tomatoes and porcini; cook until the fresh mushrooms are just wilted, about 2 minutes longer. Stir the remaining 1 teaspoon flour into the vegetables. Add the reserved cooking



liquid and the remaining 1/3 cup spaghetti sauce and cook until the mixture thickens, about 1 minute. Remove from heat and season with salt and pepper.

**5.** Preheat oven to  $400^{\circ}$  F. Lightly oil a 9-by-13 inch baking dish or coat it with a nonstick cooking spray.

**6.** Smear the bottom of the prepared dish with 1/2 cup of the sauce. Line the bottom with a single layer of noodles. Spread half of the mushroom mixture over the noodles and sprinkle with 2 tablespoons of the Parmesan. Add another layer of noodles, arrange butternut squash on top and sprinkle with salt and pepper. Spread another 1/2 cup sauce over all. Add another layer of noodles, followed by the remaining mushroom mixture; sprinkle with 2 more tablespoons of Parmesan. Finish with the remaining noodles and sauce. Sprinkle with the remaining Parmesan.

**7.** Lightly oil a large piece of aluminum foil or coat it with nonstick cooking spray, and use it to tightly cover the dish. Bake the lasagne for 30 minutes. Uncover and bake for 10 to 15 minutes more, or until lightly browned and bubbling. Let stand for 10 minutes before serving.

Makes 8 servings [325 calories/serving, 6 grams fat, 275 mg sodium].