

# MushRumors

The Newsletter of the Northwest Mushroomers Association

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## It's Show Time for Wild Mushrooms!

Rains have come to northwest Washington, setting the stage for a fall fungal flourish

By Jack Waytz

After nearly three months of sere conditions in the Pacific Northwest, the weather pattern that resulted in conditions in our area resembling the summers in eastern Washington has relented in favor of some authentic fall rains, and the forests have begun to awaken.

Reports of the beginnings of the initial flush of golden chanterelles have begun to filter in, as well as smatterings of *Boletus edulis* and *Boletus barrowsii* in the alpinas. The shaggy parasols are also pushing forth from out of the cedar duff, which they so love, and a myriad of Mycenaes adorn well rotten snags, where only yesterday, there were none.

So begins the 2015 fall mushroom season in northwest Washington, and with these first mushrooms of the season, the promise of bounty for the foragers of the Northwest Mushroomers, as we move inexorably toward our fall exhibit on October 18.

Photos by Erin Moore



Fascinated by fungi at last year's Wild Mushroom Show in Bellingham



No two years are exactly the same, in terms of what we might expect to find in the woods and alpinas of our area, and following three months of arid weather, this year will certainly provide some surprises as the season unfolds. In 2012, we also had an extended period of dry weather, but it was later in the season. That year, we had no rain in July, August, or September. The rains finally came, only 10 days before the show, but to our amazement, we were still able to display an incredible 291 species of area fungi (with a few lichens thrown in). Although there was

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a paucity of many of the mycorrhizal mushrooms that we are accustomed to seeing, that was more than compensated for by the vast array of both usual and unusual polypores and other wood loving fungi. It remains to be seen what wonders will reveal themselves to our audacious foragers this year and show as the 2015 season unfolds.

With every passing year, our great big Fall Wild Mushroom Show becomes better, more comprehensive, more educational, and more beloved within our community. Go forth into the woods and collect a good representation of mushrooms from the area in which you happen to find yourself. The more collections that we receive, the more species we will be able to display, and the more enjoyable the show will be for everyone. Happy hunting everyone!

Photo by Vince Biciunas



Beautiful cortinarius on display in 2014

Photo by Erin Moore



Conks and polypores artfully done at the show

## CONTACT INFORMATION

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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 October 2015 meeting is on a Friday: Oct 10.*

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/](http://northwestmushroomers.org/join-or-renew-membership/)

## NMA OFFICERS AND VOLUNTEERS

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## NEWSLETTER

*MushRumors* is published on Mar 7, June 7, Sept 7, Nov 20, and Jan 7 online at [northwestmushroomers.org](http://northwestmushroomers.org). Club members are encouraged to submit stories, photos, recipes, and artwork. Submissions should be made 10 days to 2 weeks prior to publication.

For newsletter content or comments, contact editor Jack Waytz above or mail to:

MushRumors c/o Jack Waytz

P.O. Box 28581, Bellingham, WA 98228-0581

## Upcoming NMA Events

**September 10, Thursday, NMA member meeting**, features Ludovic le Reynard sharing his work with fossil fungi. Meets 7 to 9 p.m. at the downtown Bellingham Public Library.

**September 15, Tuesday, Mushroom Identification Class**. This is the first day in a 6-week, Tuesday night class through October 20. Open to members only. *There are only a couple spaces remaining!* Bring chequebook or cash to the Sept 10 member meeting to register with instructor Christine Roberts. The cost is \$25 towards room rental and materials.

**October 9, Friday, NMA member meeting**, featuring Britt Bunyard, publisher & editor of the magazine *Fungi* speaking on, "Convergent Evolution." *This meeting day is unusual for us; please make a note of it!* Meets 7 to 9 p.m. at the downtown Bellingham Public Library.

**October 18, Sunday, Wild Mushroom Show**. Our 26th annual show is again at the Bloedel Donovan Park community building. Members are free, you can join/renew at the door. General admission is \$5 adults, \$3 seniors and students, children free. There are mushroom displays galore and talks scheduled in the Pavilion throughout the day.

**November 12, Thursday, NMA member meeting**, featuring Danny Miller of Puget Sound Myco. Society speaking on, "Mushroom Mythbusters... or Fungal Fables Debunked." Meets 7 to 9 p.m. at the downtown Bellingham Public Library.

## Mushroom News of the World *A new column, brought to you by Richard Mollette*

### New Mushroom Species Found in UK

Scientists say a fungi with a strange, manlike appearance first spotted 15 years ago, was in fact a new species.

Its appearance has been compared to a fisherman because it has a little round head that could be a seafaring hat and two protrusions that look somewhat like arms inside a Mackintosh.

The fungi have been given the name *Geastrum britannicum*, recognizing that, so far, they have only been found in Britain.

Tony Leech, fungi recorder for Norfolk, said: "For us, it's like a bird watcher spotting a rare bird and this is not just a new species of fungus for Norfolk or for Britain, it is new to science."

The fungus was first spotted on a roadside verge under some pine trees in 2000 by Jonathan Revett, one of Leech's fellow members at the Norfolk and Norwich Naturalists' Society.

At the time, experts at Kew Gardens and in Holland thought it was merely a variant of the extremely rare Rayed Earthstar, which is only slightly different in appearance.

The specimen was stored at Kew until recently, when it was sent to Spain for DNA sequence analysis. It was only then that it was found to be a separate species entirely.

*Photo courtesy The Telegraph, UK*



Leech said that as the mushrooms grew from their spherical puffball the skin split into different directions, creating the unusual shape. The fungi can last weeks as they become very dry. He warned ramblers against picking and eating the mushrooms if they stumble across them. "It's not so much that it's poisonous, it's just not one of the species that is edible."

*Adapted from an article by Dan Hyde, The Telegraph, UK, [www.telegraph.co.uk/news/earth/11502894/Newmushroom](http://www.telegraph.co.uk/news/earth/11502894/Newmushroom)*

# Mushroom of the Month

## *Xeromphalina campanelloides* Redhead—A Rare Find

By Dick Morrison

One of the more enjoyable aspects of mushrooming is exploring new areas to see what mushrooms might be there. I was doing just that in October 2013 near South Lake Whatcom when I came across a large fruiting of a *Xeromphalina* on a rotting conifer log covered with forest debris. I snapped a photo (Fig. 1), grabbed a few specimens, then continued prospecting for edibles, such as chanterelles, and any interesting or unusual looking mushrooms. Arriving home, sans chanterelles or anything else of much interest, I ran the little *Xeromphalina* through the SVIMS Pacific Northwest Key Council key to *Xeromphalina* species in the PNW (3), expecting it to be a common species. The preliminary ID came up, however, as *X. campanelloides*, a rare species described in 1988 by Dr. S. A. Redhead (4). Fig. 2 gives a closer look at a group of this attractive little mushroom as found on the conifer log.

Photo by Dick Morrison



Fig. 1. *Xeromphalina campanelloides* fruiting on a conifer log and debris, South Lake Whatcom, WA, October 2013.

Nine *Xeromphalina* species are known to occur in the PNW (3, 4). Trudell and Ammirati (6) list three as the most common, *X. campanella*, *X. cornui* and *X. fulvipes*. *X. caudicinalis* ssp. *caudicinalis* is also fairly common (4). *Xeromphalina* species are saprophytes, typically found on decaying plant

debris, wood, and occasionally sphagnum moss. The best known and most common species in the Pacific Northwest and across North America is *X. campanella*, sometimes called the “golden trumpet” or “fuzzy foot,” which is found on decaying conifer wood. As a group, *Xeromphalina* species may not stir the soul of mushroomers who focus on edibles, or find larger, more colorful or spectacular species of greatest interest. Some may even be of the mind that if you've seen one *Xeromphalina*, you've seen them all. However, for others, these little mushrooms are intriguing, offering the challenge of coming up with a species name, and potentially adding to the diversity and understanding of our regional ecosystems.

*X. campanelloides* was described as a new species by Redhead (4) in his major 1988 work on the genus *Xeromphalina* in Canada. The description was based on five collections, one from Vancouver Island, BC, two from Washington state, and one each from New York, and Quebec, Canada. Dates of these collections ranged from 1914 to 1979. A search of the internet provided an additional seven collections, five from Washington state in 1993, and two from Alaska in 1995. This adds up to a total of only twelve known collections from North America in a century. There is also one report from Europe in Austria by V. Antonin (1) based on a collection made in

1966. The paucity of collections across such a broad time frame supports the idea that *X. campanelloides* is a rare mushroom, and it is listed by Redhead (5) as such in British Columbia. From his biogeographic study of *Xeromphalina* in North America, Redhead (4) suggested that *X. campanelloides* might be

composed of two geographically isolated, disjunct populations, one in the west and one in the east. Over time, these populations could evolve slightly different characteristics and ecological adaptations.

Mushrooms can be capricious in their fruiting. Species, like chanterelles and some of the boletes, can be depended on to fruit regularly in the same area and at about the same time of season given favorable conditions. Others seem to fruit willy-nilly, popping up one year, then failing to reappear even under seemingly favorable conditions. I had the latter experience with *X. campanelloides*. Because the species is rare, my intent was to collect it again the following year in 2014 for verification.

No such luck, as I could find no evidence of it during the fall of 2014 on the log or site where it fruited in abundance in 2013. This same pattern of sporadic temporal fruiting follows the history of the past collections. Does this mean *X. campanelloides* is an ephemeral or fragile species, or does it mean that its vegetative mycelium is dutifully working away as a forest saprophyte and needs to produce fruiting bodies and spores only rarely? I can only guess.

Identification of *Xeromphalina* species can be a chore, requiring a microscope, chemical reagents, and a fair understanding of fruiting body morphology and anatomy. The important field and microstructure characters of *X. campanelloides* given below are based on the work of Redhead (4) and the SVIMS *Xeromphalina* key (3).

#### **Field Characters:**

Cap: Convex, obtuse to slightly umbonate, margins incurved at first, 0.3-1.2 (1.5) cm wide; surface dry. Color fulvous to ochraceous tawny, center often darker reddish-brown, cap margin pale maize-yellow,

obscurely striate.

Stipe: 1.2-3.0 cm long, 0.7-1 mm wide, typically curved towards base, honey yellow to buff near apex, fulvous to umber midway and dark brick to blackish

Photo by Dick Morrison



Fig. 2. *Xeromphalina campanelloides* mushrooms on a conifer log, South Lake Whatcom, WA, October 2013.

near base; finely powdered overall, base densely tomentose with cinnamon-reddish mycelium at its attachment to the substrate. Thin, dark brick colored rhizomorph strands extending from base into substrate. Gills: Narrow, adnate to short decurrent with a tooth, to arcuate. Pallid straw colored, moderately spaced, with two tiers of small gills (lamellulae). Spore print: White.

Taste/Odor: Taste bitter; odor not distinctive.

Habitat: Clustered on decaying conifer wood and/or woody debris in the fall. Rare, known only from a few collections East and West across the northern regions of the US and Canada.

#### **Microstructure Characters:**

Cap: Tramal hyphae non-gelatinous, incrustated with reddish-brown pigments in KOH. Epidermis with hyaline cystidia-like hyphae which are more common along the margin (termed circumcystidia).

Gills: Basidia narrow-clavate, 4 spored, 25-29 x 5-5.5 um. Spores broadly elliptical to subglobose, hyaline, thin walled, smooth, 4.5-5 x 3-4.8 um. Cheilocystidia hyaline, thin walled, narrowly cylindrical, 25-32 x 3.5-

4 µm, often with one to five finger-like projections. Stipe: Epidermal hyphae near apical region hyaline, 4-5 µm diameter, walls thin, smooth; hyphae towards base becoming thickened, reddish-brown. Caulocystidia at stipe apex, and hairs near the base. Caulocystidia 45-60 x 10-12 µm, irregularly shaped, lobed, angular and apically inflated; walls thin, occasionally slightly thickened, golden yellow in water, yellow to pale reddish brown in KOH. Medulla tissues mostly parallel, walls hyaline, covered with numerous yellow granular flecks which become bright to dark red in KOH.

Some characters that can help distinguish *X. campanelloides* from the four species most likely to be encountered in the Pacific Northwest are as follows. *X. campanella* differs in its mild taste, and by the lack of a red reaction of cap flesh to KOH solution. *X. cornui* has a mild rather than bitter taste and is typically found as single or scattered fruit bodies on conifer needles, woody debris and even in sphagnum bogs. *X. fulvipes* differs by its attached (adnate) gills versus slightly decurrent ones, and microscopically by narrow, sausage shaped spores, and a gelatinous upper cell layer of the cap in KOH. *X. caudicinalis ssp. caudicinalis* differs in its omphalinoid caps (depressed center and incurved margin), longer, straight stipes, and microscopically by having thick walled, filamentous caulocystidia which are not inflated.

In his 1988 study, which was prior to the advent of molecular DNA techniques, Redhead (4) relied on morphological and microscopic characters, and regarded *X. campanelloides* as most closely related to two subspecies (ssp.) of *X. caudicinalis*, *ssp. caudicinalis* and *ssp. pubescentipes*. Recent work based on DNA analyses by Esteve-Raventos, et al. in 2010 (2) places *X. campanelloides* as closely related

to *X. caudicinalis*, *X. cornui*, and *X. fraxinophila*, but also to *X. setulipes*, a new species they described from Spain on soil mixed with plant debris in a Mediterranean plant community of evergreen oaks, junipers and shrubs. Future DNA analyses of existing and new collections identified as *X. campanelloides* may verify it as a good species, or could reveal the existence of one or more new related taxa.

Specimens of the 2013 South Lake Whatcom *X. campanelloides* will be submitted to the Univ. of Washington mycological herbarium (WTU) under RHM13-01 and RHM13-01a, and also to the mushroom collection of Buck McAdoo of the Northwest Mushroomers Association, Bellingham, WA.

#### Literature Cited:

1. Antonin, V. 2000. The first European record of *Xeromphalina campanelloides* (Tricholomataceae) from Austria. *Osgterr. Z. Pilzk.* 9:111-114.
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5. Redhead, S. A. 1997. Macrofungi of British Columbia: Requirements for Inventory. Res. Br., B.C. Min. For. and Wildl. Br., B.C. Min. Environ., Lands and Parks, Victoria, B.C., Work. Paper 28/1997.
6. Trudell, S. and Ammirati, J. 2009. *Mushrooms of the Pacific Northwest*. Timber Press, Portland, OR, 349 p.

# Conservation Corner

## Mushroom Ecology and Conservation

*By Erin Moore*

The Northwest Mushroomers Association's conservation committee of Fred Rhoades, Christine Roberts, Erin Moore, Sandra Stringer, Zach Seilo, and Chuck Nafziger have worked up a helpful primer on the marvelous organisms we are all so keen on. Why conserve fungi? Read on.

### **Mushroom natural history is fascinating.**

- Mushrooms are to fungi like apples are to apple trees.
- Their role is to produce and disperse spores (seed-like cells).
- The tree equivalent of the mushroom is a branching system of tiny tubes called a mycelium.
- Unlike plants, fungi can't make energy-storing food; they must get it from living and dead organisms.
- Unlike animals that consume and digest food within, a mushroom mycelium grows into its food, releases enzymes and absorbs the breakdown products.

### **Mushroom ecology is deep rooted.**

A mushroom mycelium can interact with the environment in three ways:



*The honey mushroom is parasitic on living trees.*

- Saprobic—decompose dead organic matter, usually from plants.
- Parasitic—invade and obtain food from living organic matter (usually plants), causing harm.
- Mycorrhizal—form relationships with plant roots—mushrooms provide nutrients and water to plants in exchange for energy-rich food produced by the plants.

Mushrooms help our environment by:

- Decomposing dead organic matter.
- Releasing nutrients that are used by other organisms.
- Providing food and habitats for other organisms.
- Stabilizing soil to maintain habitat structure.
- Helping mycorrhizal partners survive.
- Breaking down toxic chemicals.

### **Mushroom conservation is paramount.**

Mushrooms live in intimate contact with their environment. Like all organisms, they are subject to stress and loss.

*Photos by Erin Moore*



*Leaving some fruiting bodies in situ and taking photos instead conserves mushrooms for others to enjoy.*

Stresses include:

- Changes in habitats (e.g. temperature, water, oxygen levels, etc.) beyond which species can tolerate.
- Loss of habitat by clear-cutting, development, etc.
- Changes in the health of mycorrhizal host trees.
- Predation by consumers and parasites.
- Competition from introduced invasive mushroom species.
- Humans exacerbate these stresses by their activities.

Why conserve mushrooms?

- Mushrooms provide ecological services for the environment.
- Mushrooms provide food, medicines, dyes and beauty for humans.

How can humans help conserve mushrooms?

- Conserving forests and other mushroom habitats.
- Conserving the diversity of mushroom species within a habitat.
- Taking care in their interactions with—and use of—mushrooms.
- Being aware of—and promoting—protective activities and policies.



*American matsutake (Tricholoma magnivelare) is mycorrhizal with older conifers.*

### **Practice ethical collecting.**

- Pick just some of the mushrooms you find.
- Leave the rest for spores and animal food, as habitats, and for other mushroom pickers.
- Leave mushrooms alongside trails and in campgrounds.
- Take photographs and the mushrooms undisturbed.
- Minimize disturbance to mushroom habitats and conserve their integrity. Return logs you turn over to their original position; cover shallow holes you make; conserve the integrity of mushroom habitats like the top organic soil layer and dead wood; take care not to compact the soil or trample new trails.
- Get permission to collect on private land and know the rules on public land.

### **Observe a few basic rules.**

- The "rules" for collecting wild mushrooms vary considerably by location and they change often.
- Some public areas are closed to mushroom collecting: Federal Natural Research Areas; State Natural Area Preserves; North Cascades National Park; Ross Lake National Recreation Area; Bellingham City Parks; Stimpson Family Nature Preserve.
- Most other public jurisdictions allow some mushroom picking.
- Commercial and recreational mushroom picking are regulated in different ways.

View a list of the most recent collecting rules at [northwestmushroomers.org/mushroom-links](http://northwestmushroomers.org/mushroom-links). Thank you!

## Mushroom Recipe *Brought to you by Jack Waytz*

### Mary's Chanty Recipe

This is a Chanterelle pesto caprese style Napoleon with golden beets, heirloom tomatoes and baby basil leaves. A typical Caprese is made from tomatoes, mozzarella and fresh basil. This can't really be called a Caprese salad since it isn't exactly that, but it is in the same realm and idea of one, so allow me a little artist's license here.

Ingredients: Heirloom tomatoes with chanterelle pesto of sautéed and cooled chanterelles and onion, roasted pine nuts, and Parmigiano and/or Reggiano cheese, New Zealand extra virgin olive oil, flat leaf parsley and garlic.

Directions: Place some sliced golden beets and baby heirlooms around the Napoleon. The little basil leaves on the plate are really for garnish, but they are tiny so if you want that little hit of basil, you can have as much as you want. Enjoy!

*Photo by Mary Smiley*



## Get Involved *By Maggie Sullivan*

The rains have finally arrived and the WILD MUSHROOM SHOW is just around the corner (Oct 18). Now is a good time to think about what you will do to help...and if you're a beginner, you don't need to know much. The show is a great place to learn.

Go online to [northwestmushroomers.org](http://northwestmushroomers.org) to print out a letter-size color poster for posting in your neighborhood. Get the word out.

There is something for everybody, from strong person for the entry display to assistant to the mushroom chef to hourly announcer of the Pavilion Talks. Pitch in! Sign up at the September 10 member meeting or email [maggie@fidalgo.net](mailto:maggie@fidalgo.net)

*Volunteers make the world go round at our Wild Mushroom Show*



## Nearby Fall Shows

Compiled by Richard Mollette



Last year at the children's table

### Northwest Mushroomers Association, Bellingham, Washington

#### *Wild Mushroom Show*

Sunday Oct 18, 2015, noon–5 p.m. Join us to revel in mushrooms! Pitch in: Carefully collect mushrooms on Friday and Saturday. Bring them for sorting after 5 p.m. on Saturday, Oct 17 to Bloedel Donovan multipurpose room. Sign up for shifts at the show at our Sept and Oct member meetings. Volunteer your enthusiasm, energy, and ideas! [northwestmushroomers.org](http://northwestmushroomers.org)

### Puget Sound Mycological Society, Seattle, Washington

#### *Wild Mushroom Exhibit*

Saturday Oct 10, noon–7 p.m. Sunday, Oct 11, 10 a.m.–5 p.m. This year the show will be held at Bellevue College, a new location that affords a larger venue, free parking, and Metro service for people who prefer to ride the bus. [psms.org](http://psms.org)

### Vancouver Mycological Society, Vancouver, British Columbia

#### *Vancouver Mushroom Show*

Sunday Oct 25, 11:00 a.m.–4:00 p.m. An exciting mushroom extravaganza. [vanmyco.com](http://vanmyco.com)

### Cascade Mycological Society, Eugene, Oregon

#### *Mushroom Adventure Weekend*

Thursday Oct 22–Sunday Oct 25

Thanks to a Tourism Special Project Grant, CMS has expanded their annual Mushroom Festival into a multi-day celebration of fungi including wild mushroom forays, Fungi for the People cultivation workshops, mushroom tastings at local restaurants, a presentation by food writer and mycophile Eugenia Bone, cooking demonstrations, a screening of the award-winning slime mold documentary *The Creeping Garden* at the Bijou, and more. All of the "big guns" in mycology in the West like to show up at this fall show. [cascademyco.org](http://cascademyco.org)

Photos by Erin Moore



Coral mushrooms and more on display at last year's fall show.

**[northwestmushroomers.org](http://northwestmushroomers.org)**

Our website is helpful. Check it for updates and information on speakers/meetings

Be sure to like Northwest Mushroomers Association on **Facebook**