

MushRumors

Newsletter of the Northwest Mushroomers Association

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June 2021



Stemonitis fusca. Photo by Jack Johnson

The board takes a busman's holiday

Richard Mollette

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On May 16, 2021, some of the members of the NMA Board conducted a guided foray at the Whatcom Land Trust Fenton Nature Reserve. Off on a lark were Linda Magee, Russ Thompson, Martha Dyck, Mariella Kerr, Richard Mollette, Tom Wilmore, and Jack Johnson (photographer). We were joined by Jenn Mackey, stewardship director for the Land Trust.

The Fenton Nature Reserve was purchased by the Land Trust from Ray Fenton who was the third generation to live on the 72 acres with a two-acre pond. Not wanting to see it developed, he worked with the Trust to be the future landowner and steward of the property, which earlier had partially been a working farm. There is one main volunteer-managed trail which circumnavigates the pond as well as several shorter offshoot trails.

Two years ago, in an effort to expand mushroom foray opportunities around the area, I contacted the Land Trust and it was agreed that the NMA could have access to some of their sites in exchange for cataloguing fungi finds and having one or two of their members join us on forays. The NMA now has a list of several sites to be explored and investigated as “things” start to return to “normal.” We are looking forward to this partnership being a fruitful one.

While the primary purpose of the Fenton Nature Reserve is the preservation of wildlife habitat, it is currently open to passive day use with two car parkingspots at the gate and additional parking across the street by the Custer Cemetery. Members wishing to visit the site need to inform Richard (rwmollette@gmail.com) so that he can apprise the Land Trust. At this point in time we are not foraging mushrooms for eating but one sample may be taken home for identification purposes.

Read on to enjoy more stories and photos from the day!

Fenton foray photos

Jack Johnson

Sunday morning, Richard led members of the board around the Whatcom Land Trust's Fenton Nature Reserve site. iNaturalist observations were made, laughs were had, and humans, per the CDC's guidelines, enjoyed one another's company as they observed the biodiversity.

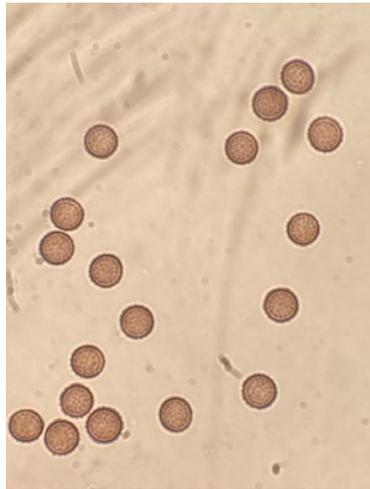
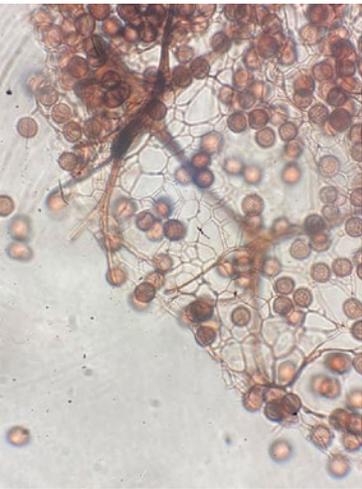
I brought my photography equipment and lingered for a few hours after the walk. Here are some of our interesting finds.

The slime mold we found was eye candy—but I wouldn't put it in my mouth. These little reproductive structures dust spores out when touched, like pollen from a pine. Not a true fungi, these creatures are more closely related to amoeba, in the kingdom of life called Chromista. When the dust of spores fall to the ground, they live as single amoebic cells, munching bacteria, and can even develop little tails to wriggle themselves to new horizons. Low



Stemonitis fusca, the chocolate tube slime mold, mature fruiting body

(All photos by Jack Johnson)



Above, left to right: A section of one "tube" or sporocarp. The spores. The immature fruiting body.

nutrients and the right environment then cause these little critters to congregate and roam around as a single super-organism called a plasmodium, which eventually turns into these chocolate tubes we stumbled upon.

The webby structure is called the capillitium, on which the spores develop. In *S. fusca*, the capillitium becomes finely branched at its ends.

Beneath that log another, smaller slime mold hid, moving slowly in the woods paid off: a slime mold of the genus *Physarum*.



Left: Natural light! Ultra macro lens and focus stacking detail the individual fruiting bodies of a slime mold in the genus *Physarum*



Fomitiporia tsugina, hemlock elbowpatch fungus

About 1.5mm long, those white dots you see speckling these fruiting bodies is good ol' calcium carbonate, a component of limestone! This huge genus contains 20% of all the true slime molds, my desk contains dozens of aging fungi. I didn't nail this one down to species.

This caught everyone's eye more than the previous creatures, as it was several hundred times larger. Identified to genus as *Fomitiporia* by mycologist Lauren Ré; this felty brown pore surface was growing out of the armpits of an old hemlock, hence the species epithet *tsugina*.

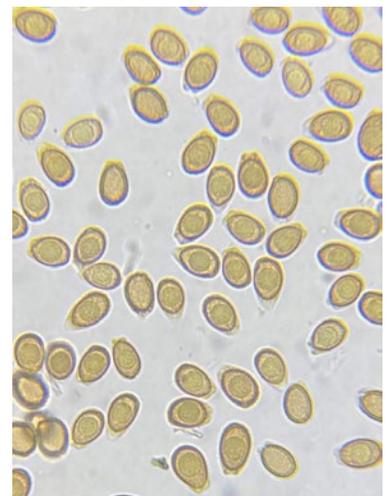
Hope you are all finding the time to get outside and explore, even in June there's plenty to be found.

Jack Johnson is a community scientist and WWU alumni with a degree in cellular/molecular biology. His expertise is in the field of bioremediation, which is using natural processes to break down waste and toxic compounds. Find him at @jackthefungi on instagram for any mycological inquiries.



Mariella gives her hand for perspective on a large artists conk, *Ganoderma applanatum*

The *Ganoderma applanatum* spores in KOH, under a light microscope



More on the Fenton Nature Reserve outing

Mariella Kerr

On a sunny, mid-May morning, several vaccinated board members convened for the first unofficial NMA foray of 2021. We went to the Fenton Nature Reserve to see what mushrooms were out, and also to begin documenting the area as a project in iNaturalist. The Fenton Nature Preserve is a 70-acre parcel of land in Custer that is owned by the Whatcom Land Trust. The trail into the reserve begins in a verdant, grassy field, and leads you into a forest of conifers that surround a small pond. We were joined by the Land Trust's stewardship director, Jennifer Mackey. She told us about the different restoration projects WLT was working on in the Fenton Reserve, as well as teaching us a few things about the trees growing in the reserve.

Walking into the forest, we saw cedars and spruces in varying stages of growth, interspersed with alder. It wasn't too long before we came across a downed alder log that was abundant with oyster mushrooms. There continued to be many fruitings of oyster mushrooms along the trail, some old, and some quite fresh! However, we did not collect any specimens, as WLT is still in the process of determining a mushroom collection policy for the Fenton Nature Reserve.

As we all have likely noticed, so far this has been a drier spring than what we are used to. In spite of this, we still found some interesting fungi. A strange, fuzzy-looking growth high up on a snag was later determined to most likely be *Fomitiporia tsugina* (thanks, Christine and Jack!). Pictured above are Martha, Linda, and Jack pointing out the interesting specimen.



(Photos by Mariella Kerr)

The foray was ultimately a success. The board members who were able to attend the foray were happy to be able to see each other's faces in person rather than over Zoom, at last! Stay tuned for NMA's future plans for possible group events later on this year, as CDC guidelines change.



Left: Slime mold in situ, *Stemonitis splendens*

Board member Richard Mollette takes a break near an oyster log in the reserve. Richard spearheaded NMA's close relationship with the Whatcom Land Trust.

The adventures— and art—of *Physarum polycephalum*

Thomas Little

It was a rainy evening in September, and I was watching PBS. There was a NOVA episode on slime mold airing, and it was showcasing all the interesting behavior *Physarum polycephalum* was capable of. It had been on a previous day that I had encountered that bright yellow creature on a rotting tree near my home on the river. In the morning, after the rain, I returned to this tree and found the population of *Physarum* still active. I took a small bit of bark with some on it, fed it some oatmeal, and I've been devoted to it ever since.

After establishing that my population was viable (indeed, thriving!) I set about reading up on what they are capable of. I had two primary interests: could they carry color, and how could I go about influencing them. I thought about what pigment compounds *Physarum* would most likely have become habituated to in nature. The obvious answer was iron oxide, or red ochre, as it is one of the most common substances on the Earth and an ancient and beloved pigment. The *Physarum* carried the pigment in its cytoplasm, and deposited it in its mucus trail, leaving super fine vascular structures of red ink. What's better is the mucus acted as an excellent binder as well!

Regarding the second interest, I found many articles outlining *Physarum*'s almost fatal attraction to valerian root. With this I set about experimenting. I purchased a few chunks of root from my local herb shop, and set up an experiment to lure the now red colored *Physarum* towards the valerian. To my surprise, the *Physarum* was repulsed by the valerian root! As it meandered on the paper, I would reposition the piece of root in its path. The reaction was distinct. The “front” of pseudopods would do an about face, and find a path around! I've since learned that some populations of *Physarum* exhibit such anomalous behavior.

The pieces I make are ink blots doped with valerian root. I place the ochre impregnated slime mold in the center and let it meander around the ink blot. It occasionally crosses the black ink, but more often than not, it traces a filigree around the form. I then dye the paper with turmeric alcohol to hide the physarochrome stains.

Thomas Little is an ink and pigment maker in southeastern North Carolina. You can find him on Instagram @a.rural.pen



Figures by Thomas Little



MUSHROOM OF THE MONTH

Psathyrella directa A. H. Smith, an unexpectedly rare find

Richard Morrison and Buck McAdoo

Psathyrella is a genus of typically fragile, mostly saprobic mushrooms with a cellular cap cuticle and purple-brown to dark brown spore prints. It has been described by some as the quintessential genus of little brown mushrooms. There are about 400 named species in North America. Placed in the eponymous family Psathyrellaceae, *Psathyrella* is polyphyletic and related to the coprinoid genera *Parasola*, *Coprinellus*, and *Coprinopsis*. A number of species are likely members of species complexes involving a closely related group of look-alikes. Revisions of the phylogenetic placement of these fungi is complex and ongoing. *Psathyrella* species are notoriously difficult to identify, requiring experience in evaluating macroscopic and microscopic characters, and where possible, molecular sequencing.

This story begins in October 2019 when Richard Morrison came across a group of appealing looking *Psathyrella* along a trail in the Lookout Mountain Forest Preserve outside of Bellingham, WA. The moist, attractive brown colored caps and varying stages of development of the mushrooms invited a photo. Satisfied with the photo result, several specimens were collected in the hope of coming up with a species name in this difficult genus. The most

comprehensive work on the genus in North America is the 1972 book *The North American Species of Psathyrella* by the renowned American mycologist Alexander H. Smith (1904–1986). The keys in this work are challenging to say the least, and did not result in a certain identification to species. However, intrigued with identifying the find to species, a sample was sent to a lab for DNA sequencing in late 2020. The result was a 100% ITS sequence match with the holotype of *P. directa*. Going back to Smith's *Psathyrella* keys and his description of *P. directa* showed where the initial attempt to key it out had gotten off track, and solidified the identification. Coming up with the species name required a combination of serendipity, curiosity and persistence.

In *The North American Species of Psathyrella* Smith described many new species, including *P. directa* which was based on a single collection he made near Mount Hood, Oregon in 1946. The collection from which a species is described as new to science is known as the holotype collection. Smith's *P. directa* holotype is stored in the University of Michigan herbarium (MICH), but a search for additional collections at other herbaria on the website MycoPortal came up empty. Further, the public



mushroom identification website Mushroom Observer (MO) had no observation for *P. directa*, which is surprising as it is used by a large number of experienced and very capable mushroom enthusiasts. So, the Lookout Mountain find of *P. directa* may well be only the second record of Smith's new species.

Buck provides the following description based on Smith's *The North American Species of Psathyrella*:

Pileus: 1-3 cm wide, obtusely conic becoming broadly conic to convex, surface moist, hygrophanous beneath a thin coating of white outer veil fibrils which aggregate into fascicles and finally disappear. Color when moist cinnamon-brown, fading to warm buff (yellowish), drying to dull cinnamon.

Lamellae: Adnate, broad, subdistant, brownish becoming dull cinnamon before shaded chocolate color by spores, edges pallid, crenulate.

Stipe: 3-5 cm long, 2-3.5 mm thick. Equal, fragile, hollow, white above, brownish beneath the veil remnants toward the base, coarsely fibrillose at first from the remains of the white veil.

Spores: 7-9.5 x 4-5 microns. Smooth, apex obscurely truncate from a distinct pore, shape in face view oblong to elliptic, in profile subelliptic to obscurely bean-shaped, color in KOH cocoa color becoming chocolate gray, in Melzer's tawny, wall about 0.3 microns thick.

Basidia: 4-spored, 18-28 x 8-11 μm, clavate, hyaline in KOH.

Pleurocystidia: 50-80 x 10-16 microns, elongate fusoid-ventricose, apex acute to subacute, wall thin, smooth, hyaline, contents not distinctive.

Cheilocystidia: 34-50 x 10-14 microns, fusoid-ventricose to clavate, thin walled, smooth or with some adhering debris, contents of some reddish cinnamon in KOH.

Pileus cuticle: Of vesiculose to pear-shaped pedicellate cells, the layer 1-4 cells deep, wall near base cinnamon in KOH, near apex hyaline, or upper layer pale with area near subcutis cinnamon-red, some cells filled with cinnamon-red pigment.

Hyphae of the pileus trama: reddish-cinnamon in KOH or vinaceous cinnamon, with inconspicuous incrustations except for wall thickenings near or at the septa.

Clamp connections present.

Type locality: Mount Hood National Forest, Oregon.



Three Pacific Northwest *Psathyrella* species similar in appearance to *P. directa*: *P. cuspidate*, upper left (photo by Buck McAdoo) and *P. incerta*, upper right, and *P. piluliformis*, lower right (photos by Richard Morrison)

Habit and habitat: Gregarious on debris of mixed conifer and deciduous forest in September.

Observations: This is a very readily identified species because of the extremely long pleurocystidia and colors of the basidiocarp which approximate those of the *P. frustulenta* group.

So, what seemed to be a somewhat unremarkable small *Psathyrella* turned out to be a very unusual and rare find. It may be that other mushroomers have come across this species over the years since 1946, but whether it was ignored as just another inscrutable *Psathyrella*, or misidentified, will likely remain a mystery in itself.

Bibliography

Kuo, M. (2011, January). The genus *Psathyrella*. Retrieved from the MushroomExpert.Com website: <http://www.mushroomexpert.com/psathyrella.html>

Smith, A. H., 1972. *The North American Species of Psathyrella*. *Memoirs of the New York Botanical Garden* 24: 1-633.

Member corner

How I became entranced with mushrooms

Christine Roberts

Imagine walking to work on a fresh autumn morning, the route passes through some sheep fields, along a country lane and then through a woodland. You are becoming familiar with the birds, plants, trees, rocks, when all of a sudden you see something unfamiliar. You know it is a mushroom, but what kind, what does it do, what is its name, what is its function in the forest?

More questions than answers, an intriguing puzzle, the books at home don't have the information, the internet is more than a decade from being invented, so you collect it and see if anyone can tell you more about it. Everyone you ask looks dubiously at it, shakes their heads and thinks you are a bit nuts.

Eventually you find a book that helps, but your hunger for knowledge outweighs the information easily available, you are hooked! A habit that can be difficult if not impossible to shake, every new bit of information on your new venture leads to more questions, more searching for answers. Eventually you have to admit this habit could be lifelong!

Forward to the present and the questions initially asked have been partly answered, but you now have many newer questions. By now you have studied reams of literature, mounds of fungi, and talked to many more enthusiasts, mycologists, scientists and the like. You have a whole bookshelf full of mushroom identification books, many of the necessary bells and whistles, but still the mushrooms intrigue you. You have joined a club full of like-



Woodland growing on limestone, with mostly ash and oak

-minded people who share your interest, who also enjoy good food and good company, who have become a happy circle of friends.

Club members all bring their own skills which add to the interest. We have scientists, chefs, artists of assorted media, ecologists, foresters, botanists, herbalists, educators, all bringing something new and fascinating to the table. There are even pieces of music composed for fungi! The world of mushrooms encompasses so many rabbit-holes of specializations, it is a real warren out there, and such fun to explore.

So welcome to the world of mushroom lovers, prepare to hunker down for the long haul, to cook/eat delicious fungal based dishes, and discuss pileus colours, shapes, sizes, spore types, colours, dissemination modes, veil details, mycelial growth patterns, habitats, DNA, Latin epithets, flavours, smells, textures, and on and on. People in general simply don't expect the colours, textures, smells, tastes, functions and surprises that fungi display.

Thank you to our members and benefactors!

The Board thanks all of our 2020 and 2021 new and renewing members. We have weathered an unusual and difficult time, like no other in our memory. The unwavering support of our members has given Northwest Mushroomers Association the financial wherewithal and enthusiasm to plan for the years ahead.

A few years ago, we added the option of joining the NMA at the Benefactor Level of \$50 per year. We wanted to recognize those of you who were able to join at that level.

In 2020, five members joined or rejoined at the Benefactor Level as individuals or households, including:

Tim West, Jessica Greenwalt & Sundial Foundation
Richard Williams

So far in 2021, eight members have joined or rejoined at the Benefactor level as individuals or households, including:

James Clark
Nancy Mintz and Marten Holden
Ana Sheppard, Willow Morgan, and Kyle Morgan
Beatrix Veenhouwer
Thomas Wilmore & Linda Magee

We all hope that in 2021 we will be able to resume safely our favorite NMA activities.

Again, thanks to all of our members.

—Mariella Kerr, NMA membership coordinator

I have participated in a number of mushroom studies, including ones in Haida Gwaii, Vancouver Island, Alberta, Nottingham UK, and throughout the Pacific Northwest. I met some wonderful people who were deeply interested in their particular niche and wanted to share their enthusiasm with anyone who would listen. The stories they told! The adventures they had! The discoveries they made, and the friends they had gathered along the way. In each study and in the groups I have participated in, both professional and beginners, the enthusiasm has been infectious. It has been hard to keep the grin off my face when a beginner makes a discovery, their face lights up with wonder, and they go rummaging about the woods for more amazing discoveries over the following days, weeks, months and hopefully, years. I marvel that such organisms can bring so much joy just by being.

When I walk through the woods near my house, I greet the familiar fungi like the old friends they are, am really pleased to meet new ones that I haven't seen in that particular place before, and watch with interest as they reshape their environment. When the phone rings and I see it is a friend who lives nearby, I know she is probably going to tell me of some new wonder in her woods, and will I come over and identify it. As I enjoy mystery stories, off I go and investigate her find, and if it is something new, I call other nearby NMA members who might have a clue, such as Fred or Buck, and we may be able to solve the mystery—or not!

So I think the roots of my entrancement lie in the challenge of solving mysteries, and having a circle of similarly minded folks to share the mystery, and looking forward to new mysteries to keep the brain entertained and needle-sharp.

*On Vimeo, enjoy a [mushroom presentation](#) given by Christine to members in May. She is past president of the [South Vancouver Island Mycological Society](#) and an authority on *Russula* mushrooms.*



Oak trees, horse chestnut, and hawthorn in England



My home valley, with gorse bushes, damson trees in bloom, hawthorn, deciduous forest, and a stand of Norway spruce

Follow NMA on Instagram

This is a friendly reminder to check out NMA on Instagram, if you have it! Follow @northwestmushroomers. If you have any pictures that you would like us to feature, please email me (360nmamembership@gmail.com) and include a caption/story if you would like!

Watch for upcoming Zoom lectures

As a member you can participate in regular email discussions from NMA board and members. Here you'll find announcing upcoming events, talks, and opportunities. And you can share articles, news, and more from the grand world of funga. Stay tuned,



Presidential prognostications

One thing about using a crystal ball to predict the future is that they do make everything go topsy-turvy. Yet, while the pandemic impacts will continue to play out through the summer, and likely with some unexpected twists and turns, it is becoming more and more likely that we will resume some, if not all, of our club's normal in-person activities in the fall. One thing that has come up during this past year and a third is that some folks

prefer to participate in our meetings via the on-line system we have used since last autumn, while others have been longing for a return to in-person get-togethers. This has been discussed at the last Board Meeting, and potentially the best solution would be for the in-person meetings to be video-linked for those wishing to watch/listen from elsewhere. If possible without too much hassle, the slide show of the speaker could be directly "broadcast" for higher resolution images for those watching from elsewhere. Otherwise the slide show would just be part of the video from the audience perspective, with the speaker standing next to the screen. What we need for this to happen, is someone(s) to step up and volunteer to deal with the camera and the Zoom link during the meetings. Numerous articles have been published about similar decisions being made by businesses that had switched to a work-from-home format during the pandemic and now are in the midst of rethinking their future business models, and how to turn what we have learned from the last year into positive forward motion, rather than just returning to the way things were before. Without a volunteer to handle the camera/mic and zoom link we will likely return to our previous way of doing things in the club, and that would be a shame. So, if you are interested in putting on this hat as a club member, please let me know.

All best wishes for the post-pandemic era!

Cheers, Mark

Dr. Mark Johnson, president, NMA

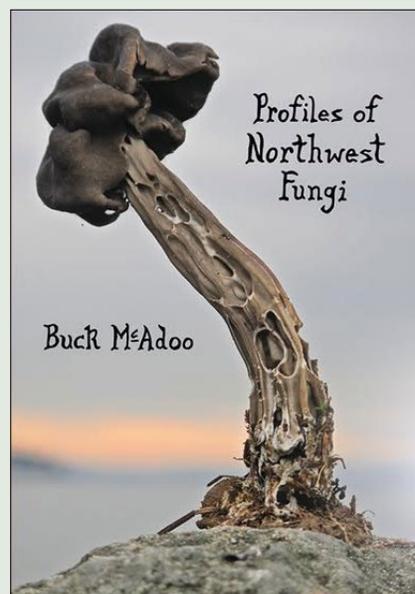


Profiles of Northwest Fungi Third edition

Hundreds of species and forty years of anecdotes and research. A wealth of information about your favorite and not-so-favorite funga that you won't want to miss!

"After all is said and one, you know you have the mushroom bug when you sail by a tiny island . . . and all you can think of is maybe there is a little brown mushroom over there indigenous to that rock alone."
—Buck McAdoo

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NMA 2021 Board nominations

The culture in which the NMA exists is rapidly evolving. Last year the Board had to adapt to a pandemic and use new technology to reach our members. We expect the use of new technology, discoveries in mycology, and new members to keep the NMA engaged and thriving.

As a Board member you can help direct the course of the NMA and move us smoothly into the future.

The Board has formed a Nominations Committee to encourage NMA members to run for the Board for the 2021–2022 term. If you are interested in running for a specific position on the Board—President, Vice-President, Secretary, Treasurer, or Trustee—please contact me by email. I will be happy to answer your questions about the nominations process and Board duties.

Watch for emails from me as the year progresses.

—Linda Magee, 2021 Nominations Committee Chair,
360nmatreasurer@gmail.com

This year's timeline for the nomination and election of the 2021–2022 Board:

October 20–Nov 3	2021 Board nominations accepted
November 16	Online voting opens
November 30	Online voting closes
December 7	Election results announced to membership
March 2022	New officers are installed at the annual meeting



New logo art and bumpersticker



Northwest Mushroomers Association is pleased to announce that we have a new logo for our club. The logo was conceived by board member Richard Mollette and beautifully designed and rendered by NMA member Nina Laden. Nina is a writer and illustrator who lives on Lummi Island.

Now, you can enjoy your own version of NMA's new logo with a handsome bumpersticker, 4" tall by 3" wide, recently presented to the club by an anonymous donor.

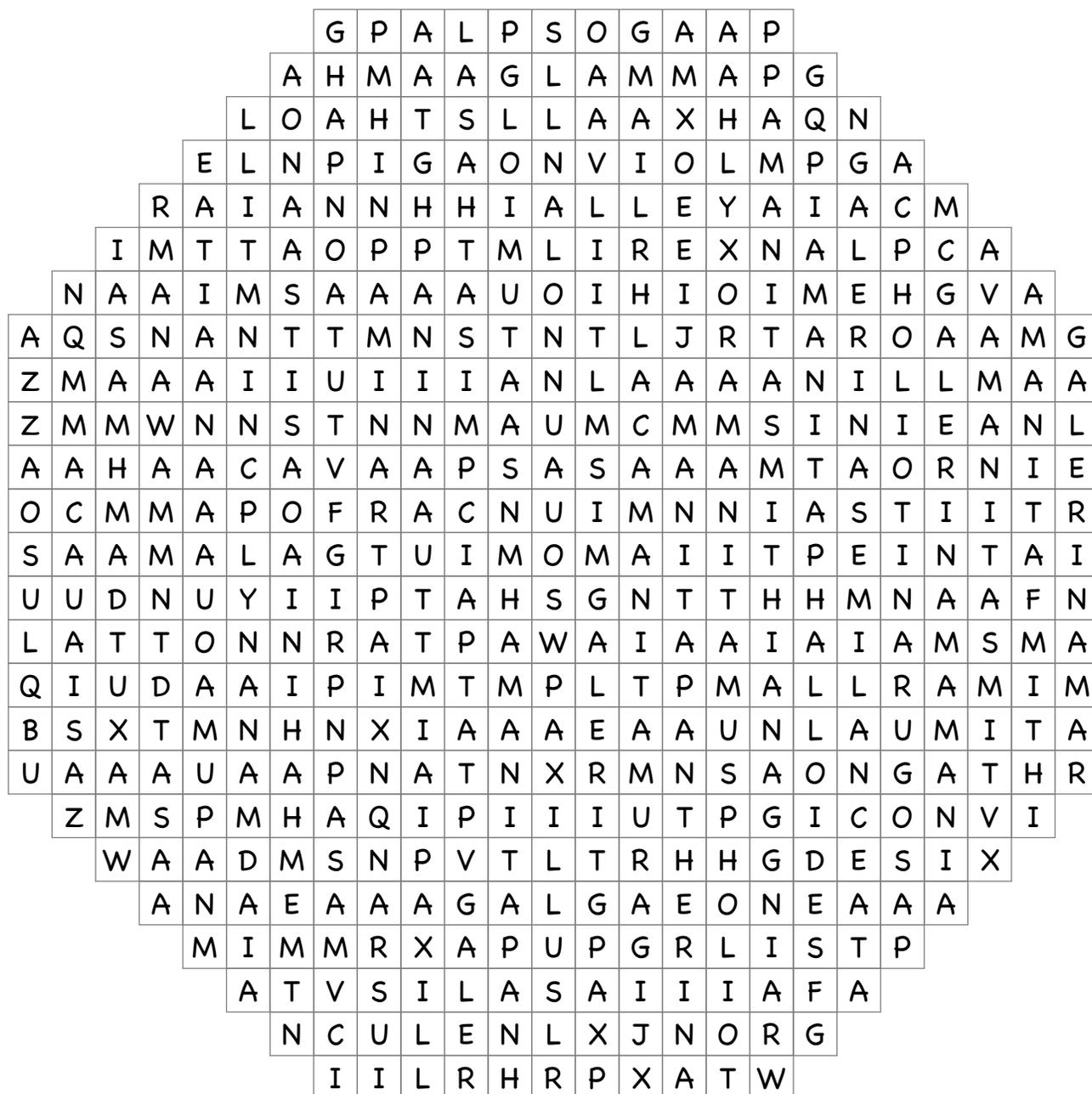
The idea for the stickers is twofold. The first is for members to find each other easily at mushroom outings and forays. The second is to promote the club in the community.

Look for a club email about a central location, place, and date where a bumpersticker can be picked up. A small donation is suggested to help boost club funds.

MazePhrase: Poisonous Mushrooms

Eduard Schwan(Songs)

This word puzzle in the shape of a stop sign contains ten poisonous fungi commonly found in Washington.



Puzzle answer online



Northwest Mushroomers Association promotes the understanding and appreciation of mushrooms, furthering the study of fungi, their identification, natural history, ecology, and conservation. We serve mushroom enthusiasts in northwestern Washington State, including Whatcom, Skagit, and Island Counties. Stay apprised of events and more by joining NMA.

Or visit: [website](#) ~ [instagram](#) ~ [facebook](#) ~ [vimeo](#)

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