

# SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY  
Number 513 June 2015



## ALL 514 ISSUES OF *SPORE PRINTS* NOW SEARCHABLE ONLINE

Danny Miller

If you're lucky enough to have been a PSMS member for a long time and have saved all of your old *Spore Prints*, you know what a wealth of information they can be. They contain over 50 years' worth of information about our club, the interesting people in it, and the mushroom world in general. But until now they haven't been that easily accessible to everyone. Short of a visit to our library during a meeting or other club event, copies of past issues have been difficult to come by.

Good news! I have just finished the long project of digitizing all of the past issues that were not already available on our website, and they are now complete and searchable! Simply go to [psms.org](http://psms.org), and click on "*Spore Prints* Newsletter" underneath the Resources tab.

You can now search the entire archive of 514 issues simultaneously! Simply enter your keyword. For instance, maybe you want to see every time your favorite mushroom genus, *Psathyrella*, has been mentioned. Simply type *Psathyrella* into the search box, and you will see that 17 issues mention that genus, meaning it is well past time for another *Psathyrella* article.

There are a few interesting things you might notice. I said there are 514 issues, yet this current issue you hold in your hands is #513. As has been pointed out recently by Brian Luther in issue #500, November 1969 was issue #57 and December 1969 was accidentally called #57 as well. The mistake was not noticed because in 1970 they started numbering the issues from #1 again (to reflect a new volume) and by the time it was decided to simply number all of the issues consecutively, everybody had forgotten that #57 was used twice.

One other interesting bit of trivia. We have consistently published 10 issues a year, one per month except for July and August... except for our second year, 1965, where we tried the experiment of publishing a July issue.

Thanks are due to Agnes and Dick Sieger who helped me digitize the few issues we did not have in our library. Key members of the club, they are mentioned in 381 of the 514 issues. As you will quickly discover as you start reading these treasures, they have been editing our newsletter since 1985, for over 30 years!

Enjoy the treasure trove of information found inside the *Spore Prints*. There is much interesting history and fascinating stories of friends past and present, and now that information is easily available to everyone.

*Shiitake were grown almost exclusively in Japan until 1982. Prior to the 1970s, they were kept out of the country because they were mistaken for a fungus that caused railroad ties to decay.*

—*The Post and Courier*, January 21, 2015

## BECOMING UNLOST IN THE WOODS

Wren Hudgins

The story goes that Daniel Boone was once asked if he had ever been lost in the woods. His oft quoted response was some variation on "Well, there was a week or two where I was pretty confused as to where I was, but I've never been lost." Beyond the amusement, the story illustrates two important points:

- *Being lost is a state of mind*, almost a decision one makes. Boone didn't decide he was lost despite a week or two of wandering.
- *The panic that often accompanies the state of being lost is optional.*

This article will summarize research on the behavior of lost persons, discuss strategies potentially useful in the event one is already lost, and, finally, discuss prevention strategies. The research on lost-person behavior has been expertly summarized by Robert Koester in his 2008 book *Lost Person Behavior; a Search and Rescue Guide for Where to Look for Land, Air and Water*. Material from his book is used here with the author's permission. Information on obtaining his book is at the end of this article.

Being lost is a special case and a subset of being missing, which includes such circumstances as being stranded, overdue, trapped, incapacitated, and others. It's an important distinction because lost persons act differently from those who are missing for other reasons. So, for this article we focus only on the lost. A reasonable definition of "lost" comes from Ken Hill, as quoted in Koester's book, as having two components:

- confusion as to current location in respect to finding other locations
- inability to reorient.

### General Tendencies of Lost People

Search and rescue literature has come a long way and is much more statistically based than ever before. We know some general tendencies of lost-person behavior and we know more detailed tendencies of specific groups. Mushroomers fall into the "gatherer" category which would include anyone out in the woods collecting anything. In Koester's database, mushroomers make up 70% of the "gatherer" category. However, first we'll cover ten general tendencies of most lost persons.

1. The lost are not randomly distributed over the landscape, but cluster in somewhat predictable locations.
2. There is some evidence that solo lost persons fare worse than a group of lost persons and that solo males fare worse than both lost groups and lost solo females.

*cont. on page 6*

# Spore Prints

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## CALENDAR

June 6 Field trip. (see PSMS website for details)  
June 9 Membership meeting, 7:30 pm, CUH  
Aug. 18 *Spore Prints* deadline  
Sept. 8 Membership meeting, 7:30 pm, CUH

## BOARD NEWS

Luise Asif

**Mushroom Maynia** was a great success and will be held again in 2016. Attendance was good and all had a great time. The board is moving forward with developing a proposal for the **Cedar River Watershed Survey Project**. Having a PSMS table at the Town Hall **Paul Stamets Lecture** generated enthusiastic interest for PSMS. The board is investigating the suggestion by a member to provide **Continuing Education** credits for teachers taking PSMS classes. A thorough investigation of requirements is needed. At this time kits for classrooms are being updated and scholarships are available for K-12 teachers. The board heard an excellent presentation on **Planned Giving** and is considering the possibility.

## FIELD TRIP REPORT, April 25, 2015 Brian S. Luther

Our first spring field trip had an excellent turnout, in spite of the off and on cloud bursts the first half of the day. Eighty-one very enthusiastic members signed in. Todd Yerien & Bob Myers brought a lot of firewood, allowing us to keep a substantial campfire going all day, and we really needed it. Thanks, guys.

## MEMBERSHIP MEETING

Tuesday, June 9, at 7:30 pm at the Center for Urban Horticulture, 3501 NE 41st Street, Seattle

Our speaker for June will be Tradd Cotter, who will speak on “Urban Mushroom Cultivation and Mycoremediation—The Rise of Mushrooms and Fall of Chemical and Biological Contaminants.” Cotter will be discussing innovative cultivation techniques, low- and no-tech strategies that rival larger, more expensive start-up options with a focus on urban cultivation, while utilizing the waste streams available to produce biomass capable of turning brown fields into green fields, mitigating pet waste, and reducing impacts on landfills. Tradd will also be discussing his latest research on how mushrooms can make novel medicinal compounds, personalized antibiotic cocktails, and how we can survive the battle with drug-resistant bacteria



Tradd Cotter

Cotter is a microbiologist, professional mycologist, and organic gardener who has been tissue culturing, collecting native fungi in the Southeast, and cultivating both commercially and experimentally for more than 22 years. In 1996, he founded Mushroom Mountain, which he owns and operates with his wife, Olga, to explore applications for mushrooms in various industries. Mushroom Mountain currently maintains over 200 species of fungi for food production, mycoremediation of environmental pollutants, and natural alternatives to chemical pesticides. His primary interest is in low-tech and no-tech cultivation strategies so that anyone can grow mushrooms on just about anything, anywhere in the world.

Would people with last names beginning with the letters A–K please bring a plate of refreshments to share after the meeting.

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Our hosts were Dave and Wuqi Weber, who were already fully set up when I arrived about 7:50 am. Wugi & Dave had a wonderful spread of goodies and hot coffee that was enjoyed by all. Thank you Dave and Wuqi—you started the day off right for us!

Josh Powell and Jon Hall volunteered as field trip guides, taking about ten members each, and other groups were separately organized.

A few really nice collections of Oyster Mushrooms (*Pleurotus ostreatus*) were found, along with the related *Hypsizygus tessellatus*.

Two collections of morels were found, all in very good condition. Also a few out of season (normally fall fruiting) specimens of *Xerocomellus zelleri* (formerly *Boletus zelleri*) were brought in. We had approximately 40 different species displayed on the picnic table.

Some of the interesting species found included a single *Hygrocybe psittacina*, a gorgeous viscid little mushroom that’s bright green at first but changes to a pale yellowish overall after a few days, as well as two specimens of *Arrhenia chlorocyanea* (formerly *Clitocybe atroviridis*).

Those who stayed for the potluck had a great meal and just as we were preparing for this, the clouds parted and we got some very welcome warm sunshine. All in all a very enjoyable day out in the woods.

# MUSHROOM STAMPS FROM ARMENIA

Brian S. Luther

The mountainous country of Armenia got independence from the Soviet Union on December 21, 1991. It's an ancient land with an equally old language and culture. It was the first country to fully accept Christianity, in the year 301. It's bordered by Turkey to the west, Georgia to the north, Azerbaijan to the northeast, and Iran to the south. It's completely within the southern Caucasus Mountains in Eurasia, but is smaller than the US State of Maryland. There are other central Asian countries that have issued beautiful mushroom stamps.

In 2013 Armenia issued two mushroom stamps, both edible fungi: Scott Catalogue Nos. 965–966. The *Macrolepiota rhacodes* (= *Chlorophyllum rhacodes*), Scott 965, has a value of 230 Armenian Dram and the *Boletus edulis*, Scott 966, has a value of 330 Armenian Dram. This species of *Chlorophyllum* is also spelled “rachodes.” These stamps were printed together as sheets of 10, with five of each species connected side by side; in philately this is called Se-tenant (from French). They were also issued in another format: as sheets of eight with only the individual species, but the nice thing about these sheets is that they have two different non-postage mushroom seals (Cinderellas) in the middle of each sheet as well (four different mushroom seals on both sheets). For a discussion of fungus-illustrated Cinderellas, please refer to my earlier article (Luther, 2012).



Brian S. Luther



Brian S. Luther

Sheet of ten with two different stamps side by side (see text).

One example of single stamp sheet of eight, with two Cinderellas.



Brian S. Luther

Armenian mushroom stamps. Left to right Scott 965 & 966.

An FDC (first day cover) was issued with this set. An FDC is an envelope (cover) with the stamps cancelled on the first day of issue, along with a colorful illustration, called a cachet. The

cachet for this FDC shows the two stamps as if they're in a book, with a magnifying glass over the *Chlorophyllum*. As you can see, the cancel on this FDC is really neat—it's round with one central bolete and twelve mushrooms in a circle around it.



Brian S. Luther

FDC with circular cancel.

## Reference

Luther, Brian S. 2012. An introduction to fungus-illustrated Cinderellas. *Spore Prints* No. 486 (November), pp. 6–7. Online and in color at [www.psms.org](http://www.psms.org).

## FIELD TRIP REPORT, May 9

Brian Luther

We had great weather for this field trip and an amazing turnout. Eighty members signed in! Hosts Doug Uren and Alyssa Panning had the campsites reserved, a ten-foot canopy set up, the supplies all out, a campfire going, and an amazing and tasty selection of fruits, bagels, muffins, hard boiled eggs, juices, and hot coffee—what a feast! Special thanks, Doug and Alyssa, for doing an outstanding job and starting the day off right for our members. Alyssa is a brand new member, having moved here from Colorado, and she already volunteered as a field trip host—fantastic. I hope other new members follow her lead.

I asked for a show of hands, and we had quite a few new members. Wren Hudgins had organized five field trip guides, and thanks to all who contributed.

Morels were found by several groups, both “naturals” and in burn sites. Erin & Brady Raymond and Sweta Agrawal came back from one of last year’s fires covered in charcoal. They said it was hard work, but they had fun and got a nice collection of burn morels for their efforts. A few small collections of Oyster Mushrooms (*Pleurotus ostreatus*) also came in, but not in abundance. All told we had 20 species displayed, but nothing extraordinary was found.

As usual, there was a lot of food for the wonderful potluck at the end of the day. Nobody left hungry, that’s for sure.

This will be the last field trip report for spring because the cutoff for the June *Spore Prints* is nearing. I want to thank all our member volunteers (past, present, and future) for your contributions. Keep up the good work.

I already have my fall 2015 field trip agenda nearly finalized, so stay tuned for that information in September. And, as always, good collecting to you.

*Suspended in the darkness of  
The cool and still Boulder Creek Night  
I hear the song of the cricket  
And locusts and frogs  
And I wonder  
Is this the life of a Mushroom?  
—Barbara E Hanson*

**RESUPINATE FUNGUS OF THE MONTH:  
The Genus *Asterostroma*** © Brian S. Luther

The resupinate genus *Asterostroma* is very peculiar, being characterized by a dimitic hyphal system with simple septate (non-clamped) generative hyphae and distinctive, prominent, and abundant asterosetae in the basidiocarp. Asterosetae are brown, thick-walled, modified hyphae that are stellate (star-shaped) with several radiating rays originating from a central point. They may be simple or branched, often have sharp pointed ends, and are dextrinoid (i.e., turn reddish brown in iodine solutions such as Melzer's reagent). Species in this genus also have large gloeocystidia (distinct sterile cells found with basidia in the hymenium, usually with granular or oily contents and often staining with selective reagents). The basidiospores are amyloid (pale to dark bluish) in Melzer's reagent or IKI and can be either smooth or ornamented. As I've previously pointed out (Luther, 2010) many resupinates may be uninteresting to look at macroscopically, just appearing as patches or crusts on the undersides of rotting wood, but they possess some of the most peculiar and intriguing microscopic features of any fungi.

In this article I will discuss a collection I found during my on-going and long-term study of the resupinate fungi on Cypress Island, WA. Cypress Island is geologically part of the San Juan Island Archipelago but is in Skagit County. I started this project in 2011 in coordination with the Washington State Department of Natural Resources. Most of Cypress Island is publicly owned and is managed and protected by the Washington State DNR. This is the fifth article I've written specifically focusing on one of the many resupinate collections I've found on Cypress Island.

**Description of Collection**

*Asterostroma cervicolor* (Berk. & Curt.) Masee  
BSL coll. #2014-1112-9

On the underside of a dead, downed Madrone (*Arbutus menziesii*) limb on the forest floor in primarily a conifer forest of Douglas Fir with some Western Hemlock, Western Red Cedar, Madrone, and Western Yew. On the trail from Cypress Head to Bradberry Lake, Cypress Island, Skagit County, Washington. Collected November 12, 2014.

All colors in quotes are from Ridgway (1912).



Brian S. Luther

*Asterostroma cervicolor*. BSL coll. #2014-1112-9 (the yellow fungus is *Piloderma fallax*).

**Basidiocarp:** Resupinate, in irregular patches up to 2 cm sq., somewhat compressed byssoid (cottony) and soft when fresh, drying pellicular (forming a pellicle-like layer), easily separable from the substrate; *hymenophore* smooth, but surface appears finely pulverulent (granular) under 45× magnification, pale brownish creamy color when fresh (“Cartridge Buff” to “Cream Buff” to “Chamois”), concolorous when dry or only slightly darker, very thin (200–400 μm thick); *subiculum* (layer of basidiocarp closest to the substrate) with conspicuous cordons (hyphal strands) throughout which are branched, pale colored or concolorous with the hymenophore; *margin* cottony-arachnoid and slightly paler than the hymenophore, sometimes also with cordons.



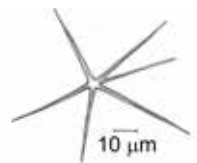
Brian S. Luther

*Asterostroma cervicolor*. View of basidiocarp under 10× dissecting microscope showing abundant cordons (hyphal cords).

**Microstructures:** *Hyphal system* dimitic; *generative and hymenial hyphae*, 2–3(5) μm wide, thin to slightly thick-walled, hyaline to lightly colored, often with minutely fine granular incrustation on the outside, septa infrequent, without clamp connections; *subicular hyphae* similar, but with cordons; *cordons* are up to 0.15 mm wide (150 μm), but usually narrower, and consist of tightly agglutinated bundles of parallel uniform hyphae, mostly from 2.5–5 μm wide and with infrequent septa (but some larger cells were seen that had frequent septa and were inflated on both ends next to the septa), thin-walled and all septa without clamps; *asterosetae* uniformly stellate, with 5–8 radiating rays that are simple and unbranched when mature, straight (not irregular), sharp pointed, 30–60 μm long, 2.5–4 μm wide at the base, thick-walled (up to 0.5 μm) where originating in the center (base), appearing hyaline to lightly colored under a 45× dissecting microscope but dark brownish or reddish brown when mounted in



*Asterostroma cervicolor*.  
*Hyphae*.



*Asterostroma cervicolor*.  
*Asteroseta*.

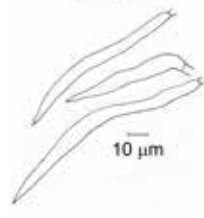


Brian S. Luther

clear mounting media under a compound microscope at higher magnification, dextrinoid in Melzer's reagent, staining blue in Brilliant Cresyl Blue, very abundant and a conspicuous part of the entire basidiocarp.

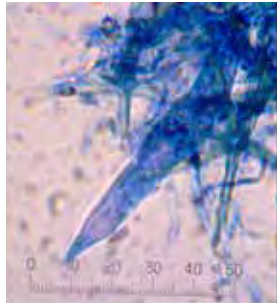
*Asterostroma cervicolor*.  
*Dextrinoid asterosetae*, 400×, mounted in Melzer's reagent.

*Gloeocystidia* 68–95(135) × 10–12(15) μm, fusiform to ventricose subulate, hyaline, thin to slightly thick walled, usually with a pointed to slightly rounded tip or often with a distinct fine and abrupt schizopapilla (nipple-like apex) when mature, extending well beyond the hymenium, contents staining pink and uniformly granular or with larger refractive guttules when mounted in 3% ammonium hydroxide and Phloxine, with dense irregular granular protoplasmic contents when mounted in Melzer's reagent when mature but few larger isolated guttules when immature, staining blue in Brilliant Cresyl Blue and SA– (i.e., not reacting with sulfo or chloro-benzaldehyde or other acidified reagents), abundant.



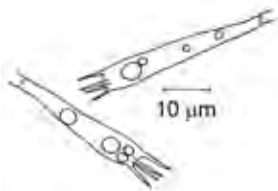
*Gloeocystidia.*

*Asterostroma cervicolor.*  
*Gloeocystidium* stained in Brilliant Cresyl Blue, 1000×.



Brian S. Luther

*Basidia* 28–45 × 5–6 μm, clavate, thin walled, without a basal clamp connection; *sterigmata* four, up to 7 μm long. *Basidiospores* 5–5.5 μm wide, globose to subglobose, hyaline to lightly colored, thin to slightly thick walled, with tuberculate ornamentation (having low, rounded projections) with the individual tuberculae somewhat widely spaced and from 0.5–1.0 μm high, amyloid.



*Asterostroma cervicolor.*  
*Basidia.*

*Asterostroma cervicolor.*  
*Basidiospores.*



## Discussion

This is a fascinating species that's recognizable by the combination of simple unbranched rays on the asterosetae and the tuberculate spores with low, rounded tuberculae (Boidin et al., 1997, spore group H).

The gloeocystidia in the collection reported on here have a maximum size range greater than what's given in the literature for this species, but there is still considerable overlap. Although the gloeocystidia are generally considered as SA– for *Asterostroma cervicolor*, Boidin et al. (1997) say “Gloeocystides SA– ou + tres faible,” meaning they mostly do not react, but can react very weakly to acidified reagents, such as sulfobenzaldehyde or sulfovanillin. For a brief discussion of these reagents used to test for gloeocystidia, please refer to Luther (2011).

Originally described by Berkeley (1873) in Berkeley and Curtis from a collection in Alabama, *Asterostroma cervicolor* was then transferred to the new genus *Asterostroma* by Masee (1899). Coker (1921) provides a very basic description and some illustrations of *A. cervicolor*. Burt (1924) reported on six species of *Asterostroma* for North America, including *A. cervicolor*, and described three of these as new, but they were synonymized by Rogers & Jackson (1943). Burt (1924) also notes the color variability in *A. cervicolor*, based on age, and he lists one collection of this species from Washington State that he studied. Bourdot &

Galzin (1927) compare *A. cervicolor* with the related *A. ochroleucum* saying *A. cervicolor* has smaller spores with shorter and more widely spaced ornamentation. Talbot (1954) discusses gloeocystidia in detail and provides an illustration of them from *A. cervicolor* in Fig. 17, no. 16. Christiansen (1960) gives details and a key for two species of the genus found in Denmark, but does not include *A. cervicolor*. In his Masters Thesis, David B. Schroeder (1962) shows some photo-micrographs of *A. cervicolor*, including basidia, spores, and gloeocystidia. He was able to get it to form a fertile basidiocarp in culture after nine weeks on Malt agar, so it's apparently easy to cultivate. Welden (1966) provides descriptions for three species from the West Indies, including *A. cervicolor*, but briefly talks about several others from North America as well. He also refers to the gloeocystidia as “pseudocystidia,” which is odd considering that it was established much earlier that the cystidia present in this genus are, in fact, gloeocystidia (Burt, 1924). Martin & Gilbertson (1980) give very simple undetailed descriptions for both *A. cervicolor* and *A. andinum* on spruce. Hansen & Knudsen (1997) provide a generic description for *Asterostroma* and a key to the two species found in the Nordic countries, including *A. cervicolor*, but their species descriptions are basic key leads, without many details. Boidin et al. (1997) provide the most up to date, inclusive, and helpful information on all species of *Asterostroma* known at the time, discussing the genus in detail, comparing the literature, and providing descriptions and illustrations. For the species in the genus with ornamented basidiospores (Section *Asterostroma*), these authors categorize the spores into eight distinct ornamentation groupings, A–H. As noted above, *A. cervicolor* has spores that fit into their group H. They also propose three new species and make a note of two others that might be considered as distinct taxa with further study. Bernicchia & Gorjón (2010) have a key that treats four species from Europe, but they provide descriptions and illustrations only for three and they don't include *A. cervicolor*. Ginns & Lefebvre (1993) document six species of *Asterostroma* from North America; the following distribution list was taken from that reference. According to the CortBase website there are currently 15 species in the genus worldwide.

### Species in North America

### Distribution in PNW

<i>Asterostroma andinum</i>	British Columbia
<i>A. cervicolor</i>	California, Idaho, Washington
<i>A. laxum</i>	Idaho
<i>A. medium</i>	Not recorded from PNW
<i>A. muscicola</i>	Not recorded from PNW
<i>A. ochroleucum</i>	Not recorded from PNW

A recent DNA study has shown that the genus *Asterostroma* is in the family Peniophoraceae (Larsson, 2007), but previously, before DNA analyses were done, it was placed in the Lachnocladiaceae.

### Classification Hierarchy

Kingdom Fungi  
Division Basidiomycota  
Class Agaricomycetes  
Order Russulales  
Family Peniophoraceae  
Genus *Asterostroma*

For a report on the genus *Vararia* in the PNW, which is a related genus in the family Peniophoraceae, please refer to Luther (2012a & 2012b).

cont. on page 6

## Key to the genus *Asterostroma* in the PNW<sup>1</sup>

- 1a. Basidiospores with distinct warty or tuberculate ornamentation, globose to subglobose; asterosetae with unbranched radiating rays; basidiocarp creamy buff to ochraceous ..... *Asterostroma cervicolor*
- 1b. Basidiospores smooth; asterosetae with simple or branching rays; basidiocarp whitish or with brownish tones ..... 2
- 2a. Basidiospores 5–6(7) µm in diameter; hymenial dendrohyphidia absent; gloeocystidia up to 30 µm long; basidia 30–50 × 4–7 µm; asterosetae mostly unbranched ..... *A. andinum*
- 2b. Basidiospores 6–9 µm in diam.; hymenial dendrohyphidia present; gloeocystidia larger, up to 100 µm long; basidia 40–80 × 6–8 µm; asterosetae often dichotomously branched ..... *A. laxum*

## Acknowledgments

I wish to express my appreciation to the PSMS Ben Woo Foundation for providing me in 2011 with a grant for boat travel to and from Cypress Island, in the event I'm not able to coordinate rides with the DNR, as was the case last year (2014). I also want to thank my daughter, Arnica Luther, who has taken time off of her busy work schedule and been a devoted companion and research assistant accompanying me on most of my trips hiking, exploring, and collecting on Cypress Island.

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## Becoming unlost in the woods, cont. from page 1

3. Lost combinations of an adult and a child tend not to wander very far.
4. The median length of a search is 3 hours and 10 minutes (median is the middle point, the 50th search out of 100).
5. The mean (average) length of a search is 16 hours and 20 minutes. (This is skewed by a few exceptionally long searches, so “median” may be a better measure of the central tendency.)
6. When lost without landmarks, people do tend to walk in circles; 55% veer to the right and 45% veer to the left.
7. When given a choice of paths in unknown woods, people make the following choices about turning.
  - 69% of right handed people who drive on the right side of the road, go right,
  - 47% of right handed people who drive on the left side, go left, and
  - 70% of left handed people, no matter what side they drive on, turn left.
8. There is a tendency for both rescuers and lost persons alike to veer away from irritants like wind, steep slopes, and tight vegetation.
9. There is moderate evidence that lost persons tend to walk downhill more than uphill.
10. There is considerable evidence that lost persons walk much more during the day than during the night.

Knowing these tendencies gives you a chance to correct them. For example, if you are trying to contour around a slope and remain at the same elevation, you will know that over some distance, there is a tendency to drift downhill. You can then take steps to attend to that variable and stay level.

<sup>1</sup> Some data were taken from Welden (1966) and Bernicchia & Gorjón (2010).

## Reorientation Strategies

So, generally speaking, the following are the strategies lost persons tend to use to reorient themselves. I will list these in order of descending efficacy (in my opinion). Please bear in mind that a number of variables affect whether a particular strategy is a good one at any given time. My ordering is a general one, and suggestive, intended to provoke thinking.

1. Use travel aids (compass, GPS, landmarks, cell phone with GPS application).
2. Backtrack (only if you can do this carefully and actually recognize the ground you are covering as familiar, which, in turn, depends on being observant on the way in).
3. Stay put.
4. Enhance your view. Climb to a higher place to see the “big picture” and possibly get cell phone reception.
5. Sample different routes. Note where you are and follow paths in different directions to see if anything looks familiar, but keep the original place in sight; then return to the original place, sample a different path, etc.
6. Sample different directions. Same as above but in the absence of paths, sample east, west, north, and south.
7. Travel a route. Pick a path and keep following it.
8. Travel a direction. Pick a direction and keep traveling that direction.
9. Use folk wisdom. Follow such adages as “all streams lead to civilization” or “moss only grows on the north side of trees.”
10. Travel randomly. This is often accompanied by panic and follows the path of least resistance.
11. Do nothing to help yourself. Don’t travel, put on rain gear or warm clothes, build a fire, anything.

## Mushroomers’ Special Risks

We mushroomers, however, present special risks because of a number of factors. The science, and it is a science, of finding lost persons becomes more exact when we focus on behaviors of specific groups like “gatherers.” Besides mushrooms, people gather berries, rocks, wood, Christmas trees, piñon nuts, ferns for floral arrangements, and other things. There are aspects of our behavior as mushroomers that complicate our rescue if lost. Koester says that compared to other groups in the gatherer category “Mushroom pickers may not fare as well under long term survival conditions.” Here are some reasons why this statement is likely true.

- We tend to keep our destinations secret: We rarely tell anyone exactly where we are going.
- We tend not to be on trails, which would at least give us a 50/50 chance of going the right direction and getting out.
- We seldom have a mental picture of the general area.
- We spend all our time looking down.
- We walk in circles.
- 83 percent of us go out alone.
- We never plan to be out very long and tend not to bring extra clothes and emergency supplies.

- We have successfully navigated in and out of the woods before, so we believe this time will be no different.
- 81 percent of us who become lost, do so because of poor or missing navigational skills.

## Recommended Steps

So, knowing all the above, there are some recommended steps you can take, which would greatly reduce the risk of becoming lost and, if already lost, would greatly decrease the chances of tragedy. These recommendations fall into two groups: (1) things you can do before you go out and (2) things you can do when already out. Much of this will seem like common sense, but sometimes common sense is a rare commodity in the woods. The following are recommended steps to take before going out.

- Check the weather forecast.
- Assemble the appropriate gear, perhaps in a backpack (all weather clothing and gear, 10 essentials, navigational gear, first aid, whistle, etc.).
- Learn to use your navigational gear.
- Charge your phone and/or take an extra battery or solar charger.
- Line up a hunting buddy.
- Take walkie talkies.
- Know how to send text messages.
- Consider carrying an EPRB (Emergency Personal Rescue Beacon).
- Take spare batteries for your devices (GPS, walkie talkies, etc.).
- Tell someone where you are going and when you intend to be back. There are a few smart phone applications into which you program your contacts and your planned return time. When you return you must call up the application and tell it you have returned as otherwise it calls your contacts and tells them you have not returned. (I have not tested these.)

Finally, there are recommended strategies for once you are out in the woods, both before and after you lose yourself.

- Enter waypoints each time you leave your car or a trail. Label these so you will know what “Waypoint 004” for example, really means. Alternatively, you could write down what Waypoint 004 means. The point is not to rely on your memory.
- Note and write down your compass bearing each time you head into the woods, whether on a trail or not. Again, do not rely on your memory.
- Notice landmarks frequently, especially when you leave the car or trail. When you are moving and stop to notice landmarks, turn around and notice what the way back looks like. Try to walk from one landmark to the next, with the last one always visible. If concerned about your ability to do this, consider loosely tying bits of bright colored surveyor’s tape on your path so that one is visible from the next. Remove them on your way out.
- If you have an altimeter (most GPS units have one), note your starting elevation.

*cont. on page 8*

## Becoming unlost in the woods, cont. from page 7

- If you have a map, locate yourself on it before starting to walk.
- Don't hurry; it's when most accidents occur.
- Recognize the feeling of panic and when you feel it, make yourself sit down and stay put until relaxed. Do not make decisions when under the influence of panic. Use acronym STOP (stop, think, observe, plan).
- Trust your devices.
- When calm, carefully consider your options and make a plan. The plan that is best for you will not be the same every time or the same as the best one for someone else. For example, if you have no navigation devices and did not note landmarks on the way in, then backtracking, often a good plan, may not be as good a plan as staying put. Conversely, if you told no one where you were going but did note landmarks, then backtracking might be preferable to staying put.

### In Summary

So there is no one best plan for every situation. Your best plan will depend on variables such as weather, the gear you have, whether or not anyone else knows where you are, how observant you were going into the woods, and especially your ability to stay calm. Panic is by far the biggest killer in wilderness emergencies. Preventing emergencies is much easier and preferable to managing them.

**The next newsletter will be in September. Have a great summer!**

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## PRESIDENT'S MESSAGE

**Kim Taverse**

I believe it is just as important that our volunteers have as enjoyable an experience at events as our visitors. Our visitors at Mushroom Maynia certainly had a wonderful time judging from their comments, but we volunteers might just have had even more fun! A huge thank you to everyone who helped. It couldn't have happened without you. I can say with no exaggeration that working with you all is both a privilege and a great pleasure! Even the staff at CUH commented on how easy we are to work with and how smoothly the event went.

## MUSHROOM ASTROLOGY

**Bob Lehman, LAMS**



**Gemini** (May 21 – June 20): You enjoy the mental challenge of figuring out when and where mushrooms are going to fruit—making calculation about rainfall, temperature, humidity, season, mycelial activity, and fruiting patterns. Having made your calculations you may get distracted by some other interest and never actually do any mushroom hunting, but you can check your calculations later by asking what other people found. You are good at mushroom identification, which is like a game to you, and you like taxonomy—especially all the name changes that drive other people crazy.

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