



Symbiosis[©]

The newsletter of the Prairie States Mushroom Club

Volume 28:2

Spring 2011

<http://www.iowamushroom.org>

Editors Note: As we roll out the new PSMC morel logo featuring a beautiful morel photo by PSMC Treasurer Roger Heidt, Don Huffman reminds us of PSMC's original connection with morels. Don also shares insights gained from the original morel study. D.L.

PSMC and the 10-year Morel Study and False Morel Study in Iowa

by Donald M. Huffman

The early history of the Prairie States Mushroom Club and the knowledge of the prevalence and distribution of morels and false morels in Iowa are intimately related. The morel logo found on *Symbiosis*, the newsletter of PSMC, reminds us of this relationship. PSMC was organized in 1983, and the 10-year, inclusive study of morels and false morels in Iowa began in 1984. It is likely true that PSMC and the morel/false morel survey could not have succeeded without the support of one another.

P.S.M.C. has since its inception been affiliated with the North American Mycological Association, the parent organization which includes mushroom clubs throughout North America. NAMA was initiated by Harry and Eslie Knighton in 1967 in Ohio as an amateur/professional mycological organization as a "people to people" group. The majority of members were and are amateur mycologists with professional mycologists providing leadership and assistance in organizing mushroom study, regional, national and international forays, club meetings and publications. Dr. Alexander

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PSMC SmugMug Photo Website

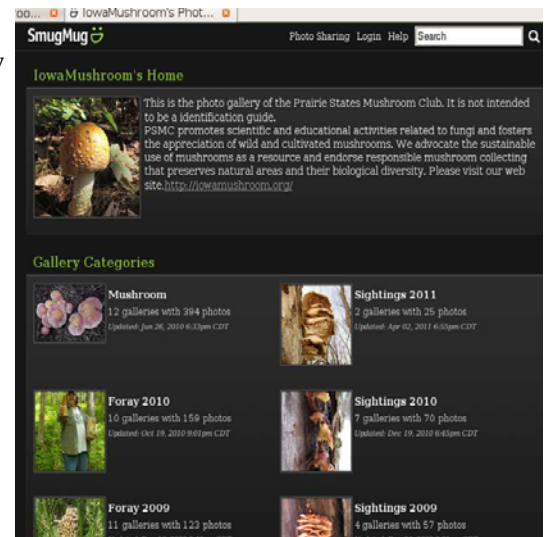
by Glen Schwartz

Most of you know that we have many hundreds of photos posted at our SmugMug website, <http://iowamushroom.smugmug.com/>, but do you know all of the features available to us?

Several years ago, we chose SmugMug as our photo hosting website because of the ease of use and the many features available to anyone viewing the pictures. The club pays \$60 per year for the website, but we feel it is worth the cost.

First, when you open the website, you see that we have several gallery categories to choose from. The "other" gallery contains only one picture, our identification photo. The Foray 2009, Foray 2010, and Foray 2011 have a gallery for each foray during the corresponding year. The Sightings 2009, Sightings 2010, and Sightings 2011 have galleries of photos taken during those years, but these pictures were not taken as part of an official foray.

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Spring Forth, But Carry an Umbrella

by Linda & Robert Scarth

While many mushroomers are eagerly awaiting the delights of early edible mushrooms (think morels) there is much more happening in the woods, water and sky. Birders are strengthening their necks in preparation for avoiding their annual May affliction – warbler neck – as these tiny bits of colored feathers head north. Their binoculars are focused on geese, ducks, loons, and a few songbirds already moving in and through.

In the late winter and early spring Scarlet Cups can be found lurking on bits of wood and branches, especially where the wood contacts the earth. Their bright red free-form bowls are edged and backed in cream. Another fairly common early spring fungal-find may be the Devil's Urn hiding by logs and blackened sticks.

Native plant and insect enthusiasts are looking for the first flowers and butterflies. Mourning Cloak butterflies sometimes over winter in crevices of bark and are among the earliest seen. That movement close to the leaf litter as you hunt for fungi may be a Mourning Cloak. Stop to check and enjoy. As the weather warms, Monarchs and Painted Ladies will follow.

Hepatica leaves (both round-lobed and sharp-lobed) keep warm with their fuzzy coats and bloom early. We see them in early April here in eastern Iowa. Skunk cabbages sometimes peek through the snow in February and are now protruding along streams and wet woodlands. Rue Anemone and Bloodroot are not far behind, followed by Trout Lilies, Bishops' Caps and Trilliums.

Spring brings out the photographer in many of us, as well as more sunny days. Sun encourages all the plants, animals and scenes we all enjoy. Sunlight can also be a problem when photographing some subjects. Most natural objects are much more reflective than our brains think they are. Color range and detail are often lost in large highlights and deep shadows because cameras have limited dynamic ranges compared to humans. One definition of dynamic range is the ability to see (or capture) detail in the brightest and darkest part of a scene.

These Devil's Urns are a chance to demonstrate the effects of managing light to prepare images. Of the many ways to manage light, we think diffusion is one of the easiest. Photography is literally painting with light and differing light sources and strengths produce differing feelings and information. Devil's Urns are hard to see and photograph in their often shady surroundings with sunlight casting strong shadows and hotspots.

These two images are an example of why you may see us in the woods with our white umbrellas on sunny days. We carry our own clouds. On bright days, just casting a shadow while wearing a light colored shirt can cut the dark shadows and bounce a little bit of sky light onto the little subject you are photographing. We

diffused the light because our cameras could then collect more information in the shadows and the bright areas. It brought the scene into the dynamic range of the digital sensor.



Devils Urn photographed using diffused light.

Photography, especially nature photography, is more than light or pretty subject matter. The image also speaks through its arrangement or composition to show off the subject matter in pleasing and informative ways. The information provided or elicited can be the more important subject.



Devils Urn photographed in full sun.

This Devil's Urn is attached at the edge of a fading blackened stick – a reminder of where it

lives. It has dried out and cracked, revealing a bit of its structure. Moss is starting to colonize the stick, furthering the recycling in the environment. The dried urn has many colors – black, brown, copper, brass, gold, or green. Most of these colors are not seen in the sunlit image. As we critiqued our images, we now think we should have also used a reflector to bounce a bit of light into the deep shadow on the lower right. More of the warm colors would have shown. And who knows, an interesting early Spring insect could have been lurking there. 

Tips on Spotting Morels

by Mike Krebill



You have to love the confidence of the morel hunter who came to a foray with a burlap bag on his back.

As a former science teacher, I taught my students the concept of a “variable.” A variable is anything that might influence the outcome of an investigation. Unfortunately, there are dozens of variables when it comes to finding morels. I humbly admit that I’m far from an expert morel hunter, so I’ve been on a quest this winter to find tips that will help put more in my basket. Thought you might be interested.

Imprinting

One way to prepare for the season is to look at photos of morels daily. Put a photo on your refrigerator with a magnet. Stick one on the inside of your front door with tape. Post one beside a mirror, etc. With a computer, you can do a Google Image search, and select and print out images. The idea is that the morel pattern will become imprinted on your brain. You

will be tuned into this pattern and spot morels more often and more rapidly due to your heightened sensitivity.

Positive Affirmations

One hunter feels that positive affirmations boost self-confidence and make a hunter more successful. Write them out, say them to yourself over and over again, and change them from time to time. Here are some that I plan to try:

“Go ahead morels – make my day – try to hide!”

“This will be a marvelous morel year.”

“I seek. I find. I am Mike the Morel Man.”

“Take me to your Mother Lode!”

When to Look

Natural signs found at the time of the year when morels occur alert us as to when to look: oak leaves the size of a squirrel’s ears; lilac budding and ready to flower; mayapple leaves opened up like umbrellas; trilliums, bloodroot, trout lily, Virginia bluebells, dandelion, spring beauty and columbine flowering.

Web tracking: here in North America, morels range from Mexico through every state in the U. S. to every province in Canada. At least two websites keep track of reports coming in as the season progresses: <http://thegreatmorel.com/sightings.html> and http://www.morelmushroomhunting.com/morel_progression_sightings_map.htm

Whether you want to follow the morels north with the spring, or wait until they reach your location, this is a great way to be in the know.

Weather: Your chances of finding morels improve when daytime temperatures reach the 60s, and nighttime temperatures are in the 50s. For those who approach morel hunting scientifically, a soil temperature of 53 degrees F is the time to start looking. Variables affecting this include type of soil (well-drained sandy soils warm up more quickly than clay soils), the degree that the ground slopes and its aspect (whether the slope faces north or south, for instance), the amount of sun or shade, soil moisture, the time of day, etc. The temperature of the soil at one location can range as much as eight degrees in a day. When everything else seems to be just right, a warm spring rain can trigger morel emergence. An early warm spell in spring, such as we had in 2010 where it cooled off for a week or two before it got warm again, can play havoc with hunting success. If you waited to hunt until after the second warming, your chance of finding morels diminished.

As a general rule in Iowa, it is best to start looking in early April, and then continue to hunt through mid May.

Where to Look

Dead elms have been touted as a great place to look. The first reported cases of Dutch elm disease in Iowa were in Lee and Scott Counties in 1956. Since that time, it has spread to all of Iowa’s 99 counties, killing approximately 95 percent of our urban American elms. The elms remaining produce a prodigious amount of winged seeds every spring in a battle to survive, and dying and dead elms may still be encountered

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Tips on Spotting Morels

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while searching for morels. “Your best luck,” says Dave Layton of the Prairie States Mushroom Club, “will be where some elm are healthy some are dying, and some have died recently” Look for elm that has most of its bark on it, but few if any leaves.

“Loss of the Symbiotic Relationship” Theory

Many experts believe that morels are mycorrhizal mushrooms that form a symbiotic relationship with many types of trees, including elms. My theory is an attempt to provide an explanation of why morels are found around dead and dying elms, but not elms that have been dead for very many years. I believe that morel mycelia respond to the dwindling health of a diseased elm, and the consequent death of their own connected tissue, by fruiting (sending up the above-ground part we call a morel.) It produces spores in its pits that may be carried by wind, rain, and critters to a new host, enabling it to survive. The spores propagate and thrive around nearby live elms making a woods of mixed live and dead elms ideal. An elm that is completely devoid of its bark, or has toppled over onto the ground, does not retain the symbiotic relationship that morels need to survive, and is an unproductive place to look.

Old apple orchards come in second when ideal places to look are described. Note the emphasis given by the adjective old. It may be that morels push up above the soil as the tree declines in health, just as with elms. However, apple trees take longer to die than diseased elms, and so the old orchard may remain productive for a longer time. Morels have been found in cider processing

piles. Old peach orchards may be worth exploring, as well.

Morels exist near ash trees: the black ash of our swamps, and the green and white ash of floodplains, valleys, hillsides, and uplands. With the advent of the emerald ash borer, we can expect to see devastation similar to Dutch elm disease, only faster once it takes hold. The ash borer loosens the bark on the tree, which falls off quickly as the tree dies. If my “loss of the symbiotic relationship” theory is correct, this should boost the number of morels seen in years to come, so you may want to learn how to identify an ash tree.

Black locust groves can be good places to look.

If you have an opportunity to hunt in the Southeastern U. S., learn how to recognize the tulip poplar tree. The majority of morels in the Southeast are associated with tulip poplars.

Don’t bypass white pine plantations. Morels also grow there.

Not to confuse the issue, but morels have been found associated with aspen groves, wild black cherry trees, shagbark hickories and oaks, in river and stream bottoms with cottonwood and silver maple and sycamore, near wild grape vines, and even beneath Osage orange (hedgeball) trees. Oh, and did I mention disturbed areas with limestone and shale? Reminds me of a line in one of Ray Steven’s songs when he sings “They’re everywhere! They’re everywhere!” That may be closer to reality than we skeptics – who have hunted everywhere – can believe, based on our lack of success.

When times are dry, head downhill. Check mossy ground, search the base of slopes, and thoroughly investigate areas with heavy to moderate groundcover. It is much harder to see morels when the groundcover is abundant, but it can be an indicator of richer or moister soil, and it can be just as and perhaps even more productive.

One of my former students has a real knack for finding morels. Keokuk High School senior Elliot Vandenberg favors hunting in creek bottoms and river bottoms with sandy soil, seeking areas where the sunlight hits. He finds morels at the edge of the woods or the edge of fields, sometimes around dead stumps where more light reaches the ground, but *never deep in the woods*. Sunlight is a key to finding morels, in Elliot’s experience. Perhaps its role in raising the soil temperature makes the difference. Islands may be productive, he adds. He has friends who have picked trash bags full of morels from islands. If an area floods, he has found that it takes two to three years before it will recover, so he doesn’t waste time searching areas that have flooded recently.

How to Look

Garrett Todd believes that we cannot see and recognize morels with our peripheral vision. Foveal vision, where the view from the left eye and the view from the right eye overlap, is the sharpest, most focused, highest resolution part of our gaze. That means we will identify more morels, he claims, if we concentrate on slowly sweeping for them with our foveal vision.

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Tips on Spotting Morels

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Garrett also believes that we can double our find if we spend more time looking. He is a staunch advocate of the 1:6 ratio. For every minute of walking, we ought to be spending six minutes carefully looking.

Morels may be hidden under fallen leaves or pieces of bark, or obscured by vegetation. Use a hiking stick to flip over raised leaves or large pieces of elm bark, or to move mayapple leaves to one side.

Remember, morels occur singly, but they also occur in groups.

Before his untimely death from injuries when a four-wheeler tipped over on top of him in 2003, Michigan's Larry Lonik was widely regarded as the most knowledgeable morel mushroom expert in the world. Here's some of his advice on how to look, from page 58 of his book, *MORELS: True or False, The Essential Field Guide and More*. RKT Publishing, Hazel Park, MI, 1999:

If you are not seeing any, change locations. Keep moving. Look 10 – 20 feet away, not directly down. Look for the “Christmas tree” shape (particularly with black morels).

Lonik was famous for his eccentric walking style as he hunted mushrooms. He would stay crouched down as he took long strides forward. This helped in seeing the outline of the morel cap against the background. He described his “mushroom walk” as a Groucho Marx imitation. (Groucho Marx was a comedian and television game show host in the 1950s, with bushy eyebrows, glasses, and often a cigar that he wiggled between his

fingers. His unusual walk was a trademark on that TV show.) Lonik, nicknamed “Tree” because he stood 6’7” tall, found Groucho’s walking style very helpful when searching for morels. He thought the average person would, as well. He recommended, as does David Arora, that we bring children and grandchildren along to join in the hunt. Being closer to the ground, once they get a feel for finding morels, they are likely to spot more than we can.


While Lonik advocated shape recognition, other productive and fast-paced hunters scan for the pattern. Even when morels seem to appear camouflaged by the background, their pockmarked natural-sponge pattern distinguishes them from the background if you search for it. Post photos around the house before the season begins and try to imprint the pattern into your mind.

Summary

Out of curiosity, I counted over 50 tips for spotting morels in this article. They range from imprinting before the season to advice on when, where, and how to look.

There are a bewildering number of variables that influence where and when morels grow, and even how easy they will be for us to see. The tips given offer insight that may reduce the impact that the variables can have on our success. In other words, following the tips might help us find more mushrooms.

Although it can be vexing to look and look without spotting any morels, it is such a wonderful surprise when it finally happens that it seems worth all the hassle we went through. The intent of this article is to reduce the hassle.

I'm eager to get out there and try the tips. May we both wind up with more morels in our baskets! 

Foxfire Funnies

Tongue-in-cheek Morel Hunting Techniques

Mike Krebill

Chain saw

When you hunt morels, take along a chain saw. Start it up and leave it running, but set it down on the ground. The mushrooms think you are just cutting wood, and don't bother to hide. When you spot the first one, sneak up on it, tap it with your finger and yell, “Tag, you're it!” This startles the mushroom and it then leads you to another one that IT tags. Grab them both, before they realize they have been tricked. — Dr. Mike Tansey,

Professor of Mycology, Indiana University

The use of chainsaws is prohibited in Iowa state parks. So you cannot use a chainsaw to harvest big fungi. Bring your axe and happy hunting. — Email from Dean Abel, Biology Department, University of Iowa



Unverified Truckload of Morels photo from email forwarded by Dean Abel

(cont. on pg. 8)

PSMC and the 10-year Morel Study (cont. from cover)

Smith, mycologist at the University of Michigan, was influential in encouraging the cooperation of professional and amateur mycologists, and many of his former graduate students were strong advocates of the inclusion of amateurs in collecting data and specimens far beyond what would be possible for professional mycologists alone. These mycologists often referred to the value of “many pairs of hands and eyes” which could be available for mycological collection and studies.


The 10-year morel/false morel study in Iowa began with over 230 specimens submitted by collectors throughout the state. Each year specimens were photographed, submitted for identification and processing at Iowa State University

(by Dr. Lois Tiffany) and at Central College (by Dr. Don Huffman). Several progress reports were published during the 10- year project, and the full study was published in the *Journal of the Iowa Academy of Science* , [Tiffany, L.H., G. Knaphus and D. M. Huffman, 1998. Distribution and Ecology of the Morels and False Morels of Iowa 105(1):1-15.]

I think that one previously unknown fact is that we found/reported *Morchella angusticeps*, the black morel in our survey. It was probably here before, but had not been reported. Other than that, we found about what one would expect. *M. crassipes* turned out to be found more often in the NE part Iowa, though it was found less frequently in

other parts of the state. I suspect that it may be because of somewhat more rain in the late morel season in the NE, but that may not be so.

Also, even though the molecular/genetic studies now show most of the “yellow morels” to be part of a species complex, I still think the time of fruiting indicates at least a seasonal population diversity within the group, so it may be difficult getting people to put all of the yellows in *M. esculenta* in field collections.

As expected, the mycological interests of amateurs in Iowa has greatly expanded, but the 10-year morel and false morel survey remains the most extensive state-wide project in the U.S. 

Recipe Corner



Photo by George Knaphus from the PSMC powerpoint *Edible Fungi Through the Seasons*

Cooking Shaggy Manes (*Coprinus comatus*)

While you're out scouring the woods for the last morels don't overlook these wonderful treats in the vacant lot next door. - D.L.

From Jane Grigson's book, *The Mushroom Feast*
Only to be eaten when decidedly white and clean like a new barrister's wig in an English Court.

Cooking: Stew in cream serve with buttered *biscottes* or fried croûtons. Slice and fry them lightly in butter, then place on top of eggs in buttered ramkins with their juices and bake in the oven – a delicious partnership.



The “Mushroom” gallery category is special. Most of the sub-galleries contain a specific type of fungi; the Mushroom gallery are all gilled fungi; the Cup Fungi gallery are all Ascomycetes; the Slime Mold gallery are all Myxomycetes; etc. The Other gallery contains photos of lichens and a few other oddballs. The Identification gallery has fungi that we are not sure of the identification. This brings us to one of the neat features of SmugMug. If you recognize one of the fungi in the Identification gallery, simply leave a comment by clicking on the green “Comments” word at the bottom of the page.

Now we get to the good stuff – some of the advanced features that might not be obvious. When we place pictures on SmugMug, we usually add keywords to each photo. If you click on one of these keywords, SmugMug will create a temporary gallery showing all of the photos with the same keyword.

For example, suppose you are looking at a picture of *Russula virescens*, and you notice the keyword “green”. Click on this keyword, and you will see 9 photos of various green fungi. To get back to “normal” mode, simply click on the Iowamushroom name in the upper left corner, just below the SmugMug banner, or, click on the “See photo in original gallery” statement just below the photo you are viewing. To see a list of all of the keywords, first click on any one keyword, and then click on the word “keywords” in the upper left corner under the SmugMug banner.

By now, you might have noticed that an additional level, FungusMushroom, sometimes appears before our name in the upper left corner. We have placed the galleries (under the Mushroom gallery category) into a SmugMug community devoted to fungus and/or mushrooms. When you are looking at photos in these galleries, the FungusMushroom level will appear. Click on this name for a real treat. When you do, you will find our galleries, along with galleries from around the world! See Eric Burger’s New Zealand Fungi for a picture of the rare blue *Entoloma*; see Chris Hiscoke’s galleries showing fungi in the UK; Doug Waylett has fungi of Alberta, Canada; and Richard Banks has fungi of Pennsylvania. For some of these galleries, I have left comments when I knew the name of the fungus in the photo.

Prairie States Mushroom Club Foray Schedule

From the PSMC Website: <http://www.iowamushroom.org/>

Editors note: Sometimes forays are planned on shorter notice. Visit the PSMC website for updated foray information.


Saturday, April 30th, 9:30 AM, Palisades-Kepler State Park near Mt. Vernon, Iowa. Directions: The park is located on Hwy 30, 3.5 miles west of Mt. Vernon or 7.5 miles east of Cedar Rapids. From Hwy 30, go south east on Kepler Dr. to enter the park. Go straight past the ranger’s house to the first shelter on the left - where the road curves to the right. **Note:** This is not the same location we were at last year. We expect to find morels, false morels, and devil’s urn cup fungi at this foray.

Sunday May 8th, 10:00 AM, Squire Point between North Liberty and Iowa City, Iowa, in Johnson County. Directions: The park is located on Dubuque St. (County Rd W66), 3.5 miles north of I-80 in Iowa City, or 2.5 miles south-east of North Liberty. Watch for the sign at the south end of a curve on Dubuque St. The park is 0.3 miles to the east of the highway down a gravel road.

The pictures you see on our site have been chosen because of their quality. We don’t want to place just any photo there - that will result in clutter and loss of interest. Most of the photos were taken by Jim Frink, Roger Heidt, or Glen Schwartz. We want this to change! We know many of you take great pictures of fungus, just send them to our club E-Mail, and we will see to it that they get on the SmugMug website. If you have a large number of great photos, we will give you the password so you can upload your pictures directly to SmugMug. Be sure to include the location of the photo, such as the park name and the county, the scientific name if you know it, and the common name if there is one. These will be entered as keywords so those viewing your pictures can take advantage of the keyword features. 

Saturday, June 11th, 10:00 AM, Brushy Creek State Park, Ft. Dodge, Iowa. Directions: TBD
Last year we found *Underwoodia columnaris*, an extremely rare fungi, at this same site. This has generated a great interest in the fungi community to see if they are present again this year.

Saturday, August 6th, 10:00 AM, Sherman Park, southeast of Wheatland Iowa. Directions: TBD
This foray will feature canoes to ferry a few of us across the river to explore additional woodlands.

Saturday, September 24th, 10:00 AM, Pioneer Ridge, near Ottumwa, Iowa. Directions: TBD
Expect to find lots of fall fungi, including Honey Mushrooms, and other delicious treats from the woods. 

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www.iowamushroom.org



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Foxfire Funnies

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Trained dogs

A dog’s sense of smell is about 200,000 times greater than a human’s. Dogs can be trained to find morels. Some folks say you can train a dog to hunt mushrooms. That’s true, and I did it. But he got so rich from selling the morels he found that he ran away to the city, bought a big house, and never hunted mushrooms again. So I think it’s a waste of time to train a dog. – *Dr. Mike Tansey*

A good mushroom dog doesn’t need to answer to very many commands but it does take some time to get the dog to work well with its trainer. The dog needs to hunt and find the mushrooms and then “lock on” the patch. This means that the head will

be low and pointing at the mushrooms, the tail will be straight out, and the right hind leg will be raised up off of the ground. I call that “pointing the patch”. Another command is just “release” and this is for the dog to come off this patch and start hunting again. Another very important command is “peruse” and this is used early in the season for hunting mushrooms. I load the dogs into the truck and then head out to one of my favorite spots, let the dogs out, and then command the dogs to peruse the woods for mushrooms. This way I can stay in the truck and drink beer while the dogs check out the woods for the mushrooms. My point dog Herman will come back to

the truck and let me know if the woods is worth hunting on this day.



It is fun to work with a group of well-trained mushroom dogs.

(Story, photo and caption from <http://olddavespo-farm.blogspot.com/2009/01/training-mushroom-dogs.html>)

