



Symbiosis[©]

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Reminiscences of Donald M. Huffman



Don Huffman, one of the founding faculty members of Prairie States Mushroom Club, had a lifelong love of learning and generous spirit of teaching that took him to exotic places, won national and international colleagues and friends

from multiple disciplines, and left behind a legacy of teaching that will continue into the foreseeable future. Don's multi-disciplinary "hats" included biologist, mycologist, plant pathologist, educator, and entertainer. Here I would like to give you a little biography, and some favorite memories of Don as I knew him.

Don was raised in Kansas, and went to college at Pittsburg State University, KS where he studied history and social science. While there, he also met his future wife Maxine. She earned her PhD in Biology the same year they married. Don went on to earn an MS at the University of Kansas followed by a PhD at Iowa State University in Plant Pathology. After a two year stint working in Plant Pathology at Kansas State University, Don and Maxine (who by this time had also earned a doctorate in English) moved to Pella, IA where Don began a long (40 yrs!) career of teaching undergraduate biology courses at Central College while Maxine taught English courses. However, Don did much more than teach. Among his contributions to the college, Don helped to launch a pre-health major, and plan Central's Vermeer Science Center. He was also very active with the Iowa Academy of Science and the North American Mycological Association. While he was teaching, and even after he retired, he inspired, mentored, and advocated for many students, including some who are now leaders in their fields of Plant Science and Mycology. Don with Maxine, who passed away 4 years

ago, left a rich legacy of advocacy for teaching and learning at Central College. The pair were instrumental in establishing study abroad programs in the Yucatan Peninsula and China. After both had retired, they traveled back and forth to China many times to write and edit a set of popular English textbooks for Chinese students. Don was still editing for his Chinese colleagues via internet in August 2014, the last time I communicated with him.

I mainly knew Don with his mycology hat on. I enjoyed listening to Don and Lois Tiffany (Mycology professor at Iowa State University) reminisce about Don's days at ISU. But how did he get interested in Mycology? In a 2010 interview with Bur Oak Blog (<http://buroakblog.blogspot.com/2010/03/interview-with-donald-huffman-part-1.html>), Don described his fascination with fungal life cycles while taking a botany class in college. During his PhD program, he acquired a deeper appreciation of the fungi while taking a course with Joseph Gilman. Lois, who at that time had recently earned her doctorate with Gilman, was helping with the class. The two of them were inspirational for Huffman's interest in fungi beyond the pathogens. The combination of student interest at Central and a fellowship at Columbia with noted mycologist Lindsay Olive further cemented his desire to more deeply investigate and teach fungal biology. This interest culminated in some of the studies and publications that Iowa citizens appreciate the most. One of his ideas was to write and illustrate a regional field guide to mushrooms of the central states, which was published in 1989 as "Mushrooms and other fungi of the Midcontinental United States." This splendid field guide was done in collaboration with Lois Tiffany and George Knaphus and was one of the best of its time. Don collaborated often with Tiffany and Knaphus. Each

(cont. on pg. 4)

To Eat or Not to Eat?

by Dave Layton

Part One (This is a three part article that will continue in the next issue of Symbiosis.)

I need to start this discussion with a disclaimer. When I first started learning mushrooms in the early 1970s I used several library books with my favorite being one published in 1903 by M. Hard. It was good because it gave very thorough written descriptions that often better matched mushrooms I was studying than the “color” plates in some of the newer books from the 50s and 60s. However, Hard got his information mainly from Captain Charles McIlvaine, which means I trusted edibility reports from a guy who was nicknamed “Old Iron-guts.”

I also must admit that I didn’t have much money back then so I ate a lot of wild mushrooms. In those days there were tons of *Coprinus quadrifidus* growing from long dead elm stumps all around town, the result of the Dutch elm disease invasion. I smashed them into mushroom patties with onions, breadcrumbs, eggs and some herbs then fried them in oil. They tasted weird but almost edible, so I ate plenty of them. They also set a low end limit to what kind of mushrooms I’d eat. Anything better than *quadrifidus* was okay. Anything worse, forget about it.

Yes I’ve eaten a lot of mediocre and uncertain mushrooms and I’m not necessarily proud of that. My saving grace is that I was pretty thorough with macro-identification, so I didn’t consume anything dangerously poisonous by mistake. However a housemate did get poisoned by the green-gilled *Chlorophyllum molybdites* after I said, “I think its probably edible but I’m not sure.” I’m not exactly proud of that either.

I also have less than fond memories of a friend telling me about lots of tasty meadow mushrooms in his yard, after I’d shown him meadow mushrooms earlier. What he found were actually harmless but bad tasting Weeping Widows, *Psathyrella (Lacrymaria) velutina*. Their only real similarity to meadow mushrooms is that they’re dark-gilled fungi that grow on the ground. I’m not sure why he thought they were tasty but he was even poorer and ate even weirder food than I.

So I’m keeping those memories in mind as I discuss edibility of controversial mushrooms. Reasons these mushrooms are controversial include potential

misidentification, possible toxins, allergens or gastritis, and dispute over flavor. I am sensitive to all of these arguments and they all have validity, so I’ll attempt to bring all sides of the debate over these mushrooms into focus and keep my opinions to a minimum – not an easy task for a guy like me.

Here are three things to keep in mind as you read about these mushrooms. One: misidentification is a possible issue with all these mushrooms, and I’m not going to give all the information needed to identify them, but I may give a few key identifiers. Two: I’ve spent many hours identifying each of these mushrooms and learning what I could about their lookalikes, before I ever considered eating them. Three: new information comes out regularly especially with genetic mapping. If I knew then what I know now, I’d have been more cautious with certain species. Plus there’s plenty I don’t know now, too. These mushrooms are presented in sort-of alphabetical order.

Agaricus sp. - Michael Kuo

One thing I don’t know now and apparently Michael Kuo doesn’t either is the name of one of our common *Agaricus* species. Trying to identify these bothered me a lot early on. They never quite fit a description but they smelled and tasted good. Any *Agaricus* species that I knew of that were considered unwholesome had an ink or marking pen or weird chemical smell that these definitely did not have, so I added them to small meals at first and eventually used them in anything that uses common mushrooms. Still I felt a nagging uncertainty about them until Kuo came to the same conclusions as I had in his book *100 Edible Mushrooms* saying, “Since it is an *Agaricus* mushroom that does not bruise yellow or smell phenolic when the stem base is crushed, I consider it safe for experimentation...” (p. 243). Kuo is really more conservative than I am for harvesting obscure edibles so if you know you have *Agaricus* and it checks out, you can have fun freaking out friends you let try it by answering, “I don’t really know,” when they ask what it is. You might want to have Kuo’s book handy to explain why though. Or else you might have a lot of leftovers.

(cont. on pg. 3)


To Eat or Not to Eat?

(cont. from pg. 2)

Amanita rubescens: This is one of our most common and most stately Amanitas in Clinton County, Iowa. Distinctive macroscopic identifiers that I always looked for were the burgundy-tinged brown cap, reddish stains wherever injured or worm-eaten, grayish irregular patches on the cap and bulbous base with little or no volva remaining. However, I would never forget that missing **any** of those identifiers could result in a very dangerous, even deadly case of poisoning. Plus I've found similar looking and potentially dangerous Amanitas growing right next to *rubescens*.

Amanitas represent a far different situation than *Agaricus* where even the bad ones are not deadly poisonous. To further complicate edibility, even sources that call *rubescens* edible note that it is toxic raw and must be thoroughly cooked. Plus *rubescens* in Iowa is apparently different from *rubescens* on the West Coast. Finally, Kuo states that people who engage in "Amanita bravado" have made "little social progress since high school." Yikes! I'm still doing all kinds of stupid things I did back then. So, don't even ask me how these mushrooms taste. I feel thoroughly chastised for even thinking of eating them anymore.

Boletus bicolor: Okay, ask me how these mushrooms taste. They're outstanding, very comparable to *edulis*! However I passed up multi-colored blue-staining boletes for decades until this summer, when I finally positively identified them. I also found them in enough abundance for several eating experiments. Part of the reason I've taken so long to identify these is because I simply was unaware of them. Several decades ago I was camping in a bolete-rich woods and found a variety of similar looking blue-staining boletes. I tried one that tasted good and another that looked almost the same that tasted bad. I concluded that they were too confusing to even try to separate. It wasn't until I stumbled across a top ten mushrooms list with these included, that I decided to rethink trying to identify these. Fortunately, this summer I not only found *B. bicolor* but I found a variety of other blue-staining multicolored boletes to compare them to. I also found a great video on <http://www.youtube.com/watch?v=72MMnQ9WOMU> that differentiates *bicolor* from *sensibilis* which has a questionable reputation. Most notable features discussed in the video are red

staining where the stem is cut or larvae have entered the stem, and a slow/light blue staining reaction. Other key identifiers include shallow tubes, robust (fat meaty) size and mycorrhizal with only oak, not pine. The most important identifier though is the excellence of its flavor. This year I was able to compare its flavor to three other bolete species that I like and found it superior to all three. I recommend trying to learn to identify this species, mainly because it's so good, but also because I think it can be more abundant in this area than *B. edulis*. Also I think any bolete that tastes good and does NOT have red tubes will not produce the serious poisoning consequences of Amanitas. However, that rule is like comparing the safety of skating on thin ice over 2 feet of water to skating on thin ice over 20 feet of water – with a current. It is still thin ice, and consequences are at least unpleasant. 

Random Stuff

by Karen Yakovich

Fantastic Fungi is putting together a movie that I can't wait to see. Sign up free for details, articles, recipes, and more at fantasticfungi.com and be amazed.

Also another thing to check is the art work of Lisa Ericson at lisaericson.com. There are two pieces that are especially neat "Perch" and "Hover". Both of which bring out the Gollum in me because frankly, "Me wants it".

I had the opportunity to view the new club DVDs. I must say they are awesome.


May the morels be ever in your favor! 



Photo by Steve Yakovich

Reminiscences of Donald M. Huffman

(cont. from cover)

of them brought a valuable set of skills to the table, and their collaboration worked well. Hopefully, I do no injustice to any by highlighting my perception of individual strengths, as all of them were pretty darn good at everything. The way I perceived their collaborations was that Don set projects in motion with some big ideas, contributed eloquent writing skills, and was very persuasive (which may have had something to do with his 6'8" frame and John Wayne deep voice); Knaphus took wonderful photos, was a charming raconteur, and great vocal advocate for the projects; and Tiffany, who also wrote wonderfully well, was exceptionally good at identifications across the fungal kingdom, and her scholarly knowledge of current research in mycology could not be beat. They worked together also to produce the popular *Mushrooms in your pocket field guide*. Arguably, their greatest joint contribution to science and the public alike was their ten-year morel and false morel study (1984-1994). This was also the reason that the Prairie States Mushroom Club was formed. Don, Lois, and George were the founding academic faculty for the club, and fostered its growth with the very able and enthusiastic help of Sibylla Brown. The primary reason for its inception was to facilitate a co-operation between the interested public and the enquiring minds of Tiffany, Huffman, and Knaphus to track morel and false morel species in Iowa over the course of ten years. This was one of the few studies of its kind at the time, and was forward thinking in its objectives to draw a baseline of what species exist for a group of non-lichen forming macrofungi in a given U.S. region. Its success was due in part to the charisma of these particular fungi, but in large part, it was successful because the principal investigators were enthusiastic, and were equally in love with the citizenry of Iowa as they were with the fungi.

I got to know Don a little when he and Lois invited me to collaborate on the 2nd edition of their field guide (published in 2008). It was highly instructive to experience the collegiality in the vetting process for species, photographs, drawings, and writing. During the process of rewriting some of the species concepts, Don said something prescient. At the time the first edition was published, most *Armillaria* species in the Midwest were lumped together as *A. mellea* (honey mushroom). However, by the 2nd edition, DNA sequencing

techniques had become more affordable and a select group of mycologists had started to apply these to fungal species concepts. For the 2nd edition, I had collected some *Armillaria* species to have their DNA sequenced by ISU mycologist Tom Harrington, who was an expert on *Armillaria*. As a result, Tom could tell us with new certainty the *Armillaria* species that were in each photograph. Don said, "I wish all of the species in the book could be treated this way". These were encouraging words that still resonate for me. In fact, a small but enthusiastic part of the mycological community is trying to do this very thing now for all species, with an eye towards a North American Mycota. I feel a great sense of pride in the Mycologists from Iowa, who were each pioneers in different ways. For me personally, the passing of Don ends a lovely chapter of Iowa Mycology that was filled with appreciation for Iowa's natural history, for students, and for all Iowa citizens who care about nature. All three of these people deeply touched my own life and the lives of many others. Don will be missed, as are Lois and George.



Fungi Photography

by Linda Loos Scarth

Making images of fungi is fun and often a challenge; especially making interesting ones at which the photographer and others like to look. This is where thinking about abstract art may be useful.

Most definitions of abstract art say that it is not a representation of natural or human-made objects, but uses color, shapes, textures and lines to make compositions that the artist finds interesting. Most hope that others also will find their abstract work engaging.




Sometimes fungi provides the possibility of using the lines, shapes, textures and colors to make an abstract photograph. A large cap, or a jelly on a log, or a group of overlapping bodies are all useful for abstraction.

The large mushrooms that are sometimes found in Ellis Park here in Cedar Rapids, IA were the tools we used to make these two abstract images. Bob was attracted to

the strong lines and color contrasts in the one on the left. Most of his from that afternoon were variations on that theme. I found the textures on some of the caps especially interesting and did variations on that theme. Of course, we also made representational images showing the entire fungi in their environment.

We use close-up lenses but that is not necessary. Normal lenses are fine if the image file is high resolution. Sometimes when using regular lenses we make interesting crops and

keep the dimensions small enough to maintain adequate resolution for good color and sharpness. Small images for the web do not need to have as high resolution as those for printing. Pretty 4x6 inch abstracts printed at 300 dpi are attractive on greeting cards.

Keep on having fun with fungi. 

My Favorite Fungi

By Dave Layton

Blewits and chanterells and all kinds of puff balls
Boletes and oysters some big and some small


Fairy ring bonnets with with shaggy manes too
These are all mushrooms I love in my food.

Silky volvaria so soft and delicious
Hericiium clusters so good in most dishes

Young honey mushrooms make fish stew complete
These are all mushrooms that I love to eat

Chorus
When my taste dies
From old french fries
When my menu's sad
I just remember the hens in the freezer - and
Thats when I feel - so glad

Morels and knotholes, and candy cap cupcakes
Finding new species and not making mistakes

An Easter egg hunt and a walk in the woods
Look under a log and turn up something good
Chorus 

Mushroom Banquet

by Karen Yakovich

A little joke... I was invited to a cannibal party. When I showed up late, they gave me the cold shoulder. If you show up late to a mushroom banquet something worse happens. You miss a dish. I was fortunate to go home with a few delectable extras.

The pairing of an amazing group of people along with marvelous food, made a great night. The effort and care put into the event shined through. None of it would have been possible without the benevolent organization, flawless servers, passionate cooks, expert speakers, and creative musicians. Keep up the good work.

The first courses were two soups. Like I said I was late and missed the first one. Shucks! The second one was warm and comforting. It was served with a sort of dry dumpling or biscuit with fried royal trumpet flakes atop. The little royal trumpet flakes tasted a bit like bacon. I broke off pieces of the biscuit and dropped them in the soup one at a time. Yum.

We had cute maitake “sausage” patties seasoned with Saltlicker’s Cy salt in a bed of roasted red pepper sauce topped with shaved parmesan. It’s interesting how mushrooms can be an excellent substitute for meat. It was definitely delicious.

The dishes from the cheese shop were strange and flavorful. A chicken mousseline topped with poached wild mushrooms wrapped in La Quercia prosciutto and micro-mustard green salad. Also a crostini with mushroom duxelles, chicken liver mushroom pate, mustard caviar, pea shoots and pickled mushrooms. I ate every bite. I was into the crostini and diggin’ the pickled mushrooms. The mustard caviar, supercool.

My favorite must have been the enoki sushi. It was scrumptious. I could have eaten three or five.

From Story City Locker we each had a lamb sausage with oyster mushrooms. Roasted fresh beech mushrooms, cauliflower, red onion, and pomegranate seeds, fried chick peas, spiced with Saltlicker’s Peter Rabbit and two styles of raita, walnut coriander and mint cucumber. This savory number was gone in no


time. It was so good. I ordered some Saltlicker’s the following Monday, and looked up how to make raita. The mint cucumber needs to be in my files.

For dessert we had a spring take on bûche de Noël from Arcadia Cafe & Bakery. Bûche de printemps with candy cap dusted merengueshrooms. It was super yummy. Mushrooms that taste like maple syrup, how cool is that.

If you stayed until the end there was a foray. Well, a digestive drink called a foray. A black walnut liquor, home brewed cider, and a splash of club soda. Perfect end to the evening

I liked Dave’s talk. He was smart, comfortable, and funny. He asked lots of questions and gave lots of answers. Dave also provided a color identification key to take home. If you are into learning about fungus don’t miss his talks, or any of the other seasoned hunters there, including Glen.

In addition to being an expert speaker, Dave is also in a groovy band with Michael Ching called The Mushroom Caps. They performed three songs during the night. “Mushroom Eye” was written by Michael Ching especially for the event. “My Favorite Things” was lyrically remastered by Dave Layton. Also preformed was “I Just like Morels Too Much”. The songs were so good I am looking forward to their debut album.

Once a year this is the place to be. A thank you to everyone who made it possible, Barbara Ching for the original idea two years ago, and her spotless organization, The Iowa Arboretum and Joe McNally for hosting so warmly, Dave Layton for his masterful presentation and Q&A, The Mushroom Caps for their delightful mini concert, and Glen Schwartz for his spirited pear juice. Also, thanks to Jennifer Knox, Brett & CJ Bienert, Anis Chamberlin, Ty & Bobbie Gustafson, Liz Jeffrey, Mike Krebill, Kevin Lantz, Jennifer Miller, Sally Myers, Mark Schneider, Deb Switzer, and Collin Switzer. If I forgot anyone or anything, please remind me next year. 

Monterey Fish Stew

Better Homes and Gardens Soups & Stews Cookbook (1978)

1 pound fresh or frozen firm, white fish (such as cod, haddock, or sole)
1 small onion, diced (1/3 cup)
1 clove garlic, minced
2 tablespoons butter or margarine
1 cup water
1/3 cup dry vermouth
2 teaspoons instant chicken bouillon granules
3/4 teaspoon salt
1/2 teaspoon dried marjoram, crushed
1/8 teaspoon pepper
1 bay leaf
2 potatoes, peeled and sliced (2 cups)
1 carrot, sliced (1/2 cup)
2 medium tomatoes, peeled and chopped (1 1/2 cups)
5 or 6 fresh mushrooms, quartered



Sally's note: in the winter, I have used canned, diced tomatoes (drained), more often than fresh.

Our note: 1 cup of lightly cooked honey mushrooms (pre-sautéed in light olive oil and drained) is better than store-bought or any other wild mushrooms we've tried. Sautéed honey mushrooms can be frozen then added to the soup later on without thawing – just rinse off any frost first.

2 tablespoons snipped fresh parsley
1/4 cup cold water
2 tablespoons cornstarch

Thaw fish, if frozen; cut fish into bite-sized pieces. In 3-quart saucepan cook onion and garlic in butter or margarine till tender but not brown. Stir in the 1 cup water, the vermouth, bouillon granules, salt, marjoram, pepper, and bay leaf. Add potatoes and carrot; bring to boiling. Reduce heat; cover and simmer about 20 minutes or till vegetables are just tender. Add fish, tomatoes, mushrooms, and parsley. Cover and simmer about 5 minutes or till fish flakes easily with a fork.

Remove fish and vegetables; set aside. Blend the 1/4 cup cold water and cornstarch; stir into pan. Cook and stir till thickened and bubbly. Return fish and vegetables to sauce; heat through. Serves. 4.

Sally's opinion: this is not a soup one would make ahead and use the crockpot (although it's never stopped us from eating leftovers).

I have never removed the fish and vegetables, as in the last paragraph of directions. Too much to remove, just stir in the blended water and cornstarch.



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PSMC 2015 Foray Schedule

May 9th, 8-10 a.m. Wickiup, near Cedar Rapids Iowa.

May 9th, Rodgers Park, near Vinton Iowa.

May 10th, 10-noon Palisades-Kepler State Park, near Mt. Vernon Iowa.

May 16th, Pioneer Ridge Nature Center, near Ottumwa Iowa.

July 11th, 10-noon Prairie Creek Recreation Area near Maquoketa in Jackson Co.

For complete details on these foray’s and last minute foray’s, please visit the webiste: <http://iowamushroom.org>

Dues

If you haven’t paid you dues for 2015,
now is the time.