

TOM VOLK

PERSONAL

- Born: January 28, 1959
- Hometown: Girard, Ohio
- Hobbies: Spending time outdoors;
former competitive marching band instructor
- Favorite Fungi: Morels and Chanterelles

EDUCATION

- 1988, Ph.D. in Botany, UW-Madison
- 1980, Bachelor of Science in Botany, Ohio University, Athens, Ohio

PROFESSIONAL EXPERIENCE

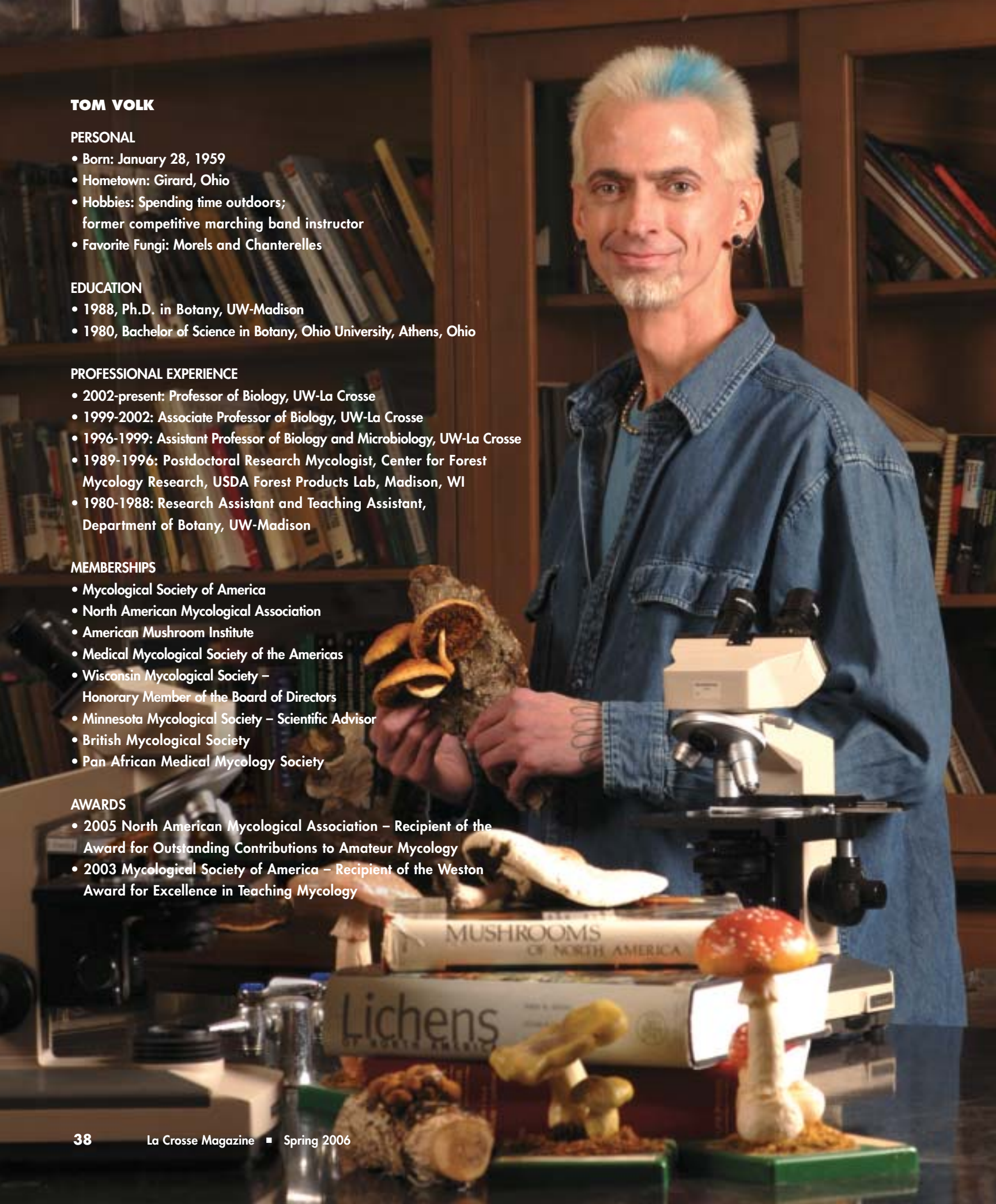
- 2002-present: Professor of Biology, UW-La Crosse
- 1999-2002: Associate Professor of Biology, UW-La Crosse
- 1996-1999: Assistant Professor of Biology and Microbiology, UW-La Crosse
- 1989-1996: Postdoctoral Research Mycologist, Center for Forest Mycology Research, USDA Forest Products Lab, Madison, WI
- 1980-1988: Research Assistant and Teaching Assistant, Department of Botany, UW-Madison

MEMBERSHIPS

- Mycological Society of America
- North American Mycological Association
- American Mushroom Institute
- Medical Mycological Society of the Americas
- Wisconsin Mycological Society –
Honorary Member of the Board of Directors
- Minnesota Mycological Society – Scientific Advisor
- British Mycological Society
- Pan African Medical Mycology Society

AWARDS

- 2005 North American Mycological Association – Recipient of the Award for Outstanding Contributions to Amateur Mycology
- 2003 Mycological Society of America – Recipient of the Weston Award for Excellence in Teaching Mycology



A one-on-one interview with Tom Volk, Ph.D., professional mycologist and all-around “fun guy.”

do you know the mushroom man?

Story by Amy Carney, photography by Bruce Defries

I will be the first to admit that I am not one to spend my free time in the woods. I was not the kid who was slicing open any strange thing that I found growing in my backyard. And, as a journalism major in college, I avoided any courses involving Bunsen burners, microscopes or slides. So, as I made my way through Cowley Hall on the University of Wisconsin-La Crosse campus—past students in white lab coats, bulletin boards boasting the recent recipients of research grants, and “analysis of mutations in yeast” posters—I knew that I had a lot to learn about mycology, the study of fungi.

The mushroom hunter

UW-La Crosse is home to Tom Volk, a recognized expert in the field. Tom’s interest in mycology began during his junior year at Ohio University when he decided to take a mycology course. “I found out that I could find free food in the woods—and that was very appealing to a college student,” explains Tom. When he returned home to Girard, Ohio, for his summer vacation, he began “hunting” for some of the mushrooms he’d learned about in class. He found numerous edible mushrooms right in his own backyard.

In Wisconsin, there are over 5,000 species of mushrooms, 150 of which can be eaten. At least four deadly species also exist, and 30-40 others that can make you very sick. The remaining species are too small, too soft or too bitter to be eaten. With practice, Tom says that anyone can learn to identify at least 20 edible mushrooms that can be found in our area. He does warn that you should *absolutely* identify the species before trying to eat it. His grandmother used to determine which mushrooms were safe to eat by feeding them to the cat first. If the cat was still alive the next day, the family could eat the mushrooms. What Grandma didn’t know was that the mushroom most toxic to humans doesn’t affect cats. “She was lucky she didn’t find that one,” laughs Tom.

After completing his bachelor’s degree in botany, Tom decided to pursue his doctorate in botany at the University of Wisconsin-Madison. His graduate thesis focused on morels, an edible mushroom with a brownish sponge-like cap.

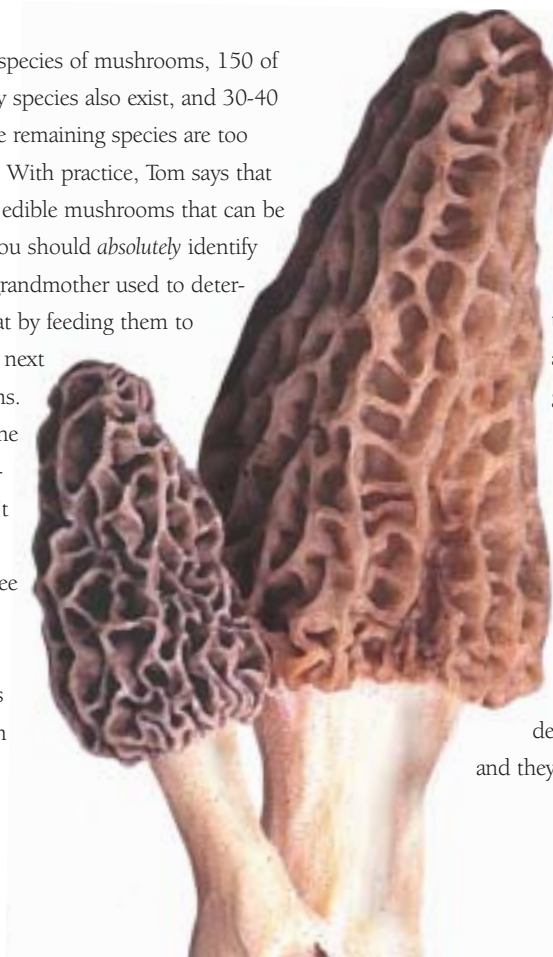
Morels are an especially popular species for amateurs to hunt in the spring. They are abundant in the Coulee Region and come up in the same spots year after year. A good time for morel hunting in our area is late April to late May, after the temperature has been above 50 degrees for several nights in a row, or, as the old wife’s tale says, “When the oak leaves are the size of a squirrel’s ear.” Tom is secretive about the spots where he hunts. Only students and a few select friends are allowed to accompany him on his morel hunting trips. Fall mushroom hunt areas are less secretive, and more people come along.

Shortly after Tom obtained his doctorate in 1988, he began working at the Center for Forest Mycology Research for USDA Forest Products in Madison. As a research mycologist, Tom identified fungi that could be harmful to forest growth and beneficial fungi that needed to be preserved.

Sharing his passion

Since joining the Biology Department at UW-L in August of 1996, Tom has taught courses in general, medical, and food and industrial mycology, as well as plant-microbe interactions, and Latin and Greek for scientists. The first mycology course at UW-L was started in 1966 by Allen Nelson, Ph.D. Today, the Biology Department offers five courses in mycology, while most colleges fail to offer any. UW-L can also boast technology and equipment for mycological research and teaching that schools such as Harvard do not. “UW-L is an ideal school for learning because students get a lot of attention, and it’s also large enough to offer a variety of courses,” says Tom. “I enjoy the combination of research and teaching that my position allows me.”

Tom discovered his love for teaching as a graduate student at UW-Madison. He started as a teaching assistant and then took over the mycology course after the professor passed away suddenly. “I like when the students learn something, when the ‘light goes on’ and they realize that they know something,” says Tom.



Students come mainly from Wisconsin, but also from states as far away as Washington, North Carolina and Pennsylvania to study with Tom. For the next six months, he is also hosting Ayman Daba, a Fulbright scholar from Egypt.

Other students have been converted into mycologists. "I had one student in particular that accidentally took my class because it was the only one that fit in his schedule," says Tom. "Now he's getting his master's in mycology and looking into getting his doctorate." In 2003, Tom was the recipient of the Weston Award for Excellence in Teaching Mycology from the Mycological Society of America. Last year, the North American Mycological Association presented him with the Award for Outstanding Contributions to Amateur Mycology.

Valuable research

Tom and graduate student Jonathan Palmer are currently studying the Chestnut Hills area of West Salem, not far from La Crosse. Chestnut Hills is the largest remaining stand of American chestnut trees in North America, and may offer the last opportunity to study the forest ecology of the American chestnut tree.

In 1904, a chestnut blight fungus was discovered at the Bronx Zoo in New York City. It is believed to have been brought to North America by Asian chestnuts trees that were being planted in nurseries and sold as specialty trees. The blight decimated between 3.5 and 4 billion American chestnut trees in less than 50 years. Researchers believe that the Chestnut Hills stand in West Salem has survived because the correct mycorrhizal fungi were present in the soil. Mycorrhizal fungi form a mutually beneficial relationship with trees, helping both the fungi and the tree to survive. Through their study, Tom and Jon hope to identify the fungi present at Chestnut Hills. Some of Tom's other students have worked on projects featuring subjects as diverse as yeast and other fun-

gal infections, fungal recycling of plastics, morel cultivation, useful chemicals from fungi, fungal cell biology, and many more.

Tom keeps in touch with students even after they've graduated. "My one criterion for their job search is that they go somewhere that I'd like to visit," he jokes. A couple of his past students have gone on to become professional mycologists themselves. "It's gratifying that they were interested enough and learned enough from me to decide to continue on in the field."

Tom is also collaborating with colleagues from the UW-L Microbiology and Chemistry Departments and other schools to look for medicinal compounds from fungi and plants. Some of the local fungi they have discovered have given them the best results. "We may be able to find medicines locally instead of traveling to the rainforest," says Tom.

'Shrooms in cyberspace

One of Tom's largest and most noticeable projects is his Web site, TomVolkFungi.net. The site started in 1994 as a collection of over 1,000 scanned slides on a Gopher server. (The Internet Gopher pre-dated the World Wide Web for organizing and displaying files on Internet servers.) The following year, Tom bought a book and spent an hour creating his actual Web site for the Internet. People slowly began hearing about the site; in the last 10 years, he's had more than 850,000 hits. The number of visitors usually increases during mushroom hunting season, and he's had as many as 20,000 visitors in one month.

Tom tracks the many locations from which he has received e-mail by putting a pin into a large map that hangs above his desk. He has received e-mail from every continent, including Antarctica. The majority ask him to identify something that the sender has found growing in his or her yard. Others ask him to treat their medical problems because he has information on several medically important





Tom Volk and his students look for fungi in many locations, including here in the mountains of Oregon. What they have found is a giant, rare and endangered fungus called *Bridgeoporus nobilissimus*, which grows in fewer than 10 locations in old growth forests of the Pacific Northwest.

Photo by Dan Czederpiltz

fungi on his site. As a result, he has put a prominent disclaimer on the Web page to tell people he is not a medical doctor. One man actually sent him a package with photographs of the sores on his legs and a bag of the soil from his yard!

Teachers use Tom's site as well, sending their students to study his Fungus of the Month page. His site was also featured in the *Chronicle of Higher Education*, *Science Magazine* and many others.

Tom's interest in mycology remains strong because of an endless amount of information yet to learn and thousands of species left to discover. There are currently 70,000 identified species of fungi in the world, but scientists estimate that number represents only five percent of the fungi that exist in nature. Tom and his students discover a new species almost every year.

Collaborating with amateurs

Mycology is one of only four major scientific disciplines where amateurs have a significant impact on research and study, and where they aid in collections of specimens, as well as the ecological data that is necessary for collections to have scientific value. Over 70 clubs for amateur mycologists are scattered across the country. "I am a very strong advocate of the involvement of non-professional mycologists in the study of fungi at many different levels," says Tom.

The Wisconsin Mycological Society is dedicated to the study and enjoyment of wild mushrooms and other fungi. Members learn how to collect and identify wild edible and poisonous mushrooms, how to cook and preserve them, and tips on home cultivation. Tom preserves many of the mushrooms he collects to be eaten after the season has ended. "It's nice to pull a bag out of the freezer and relive the summer and fall," he says.

His most decadent meal involves filling hollow morels with crawfish stuffing and then cooking them on the grill. Wild mushrooms have a better and much stronger flavor than the white button mushroom that can be found in the local grocery store. Because of a craze for white products at the time, the white button mushroom was bred in the 1930s to be as white as possible with no real concern as to flavor,"

explains Tom. Recently, however, the portabella—a darker, more flavorful member of the same species—has seen growing popularity.

Into the woods

The best time for mushroom hunting in the Coulee Region is from late July through mid-October. If you've never gone mushroom hunting before, Tom suggests going with someone who has, or joining a foray. Mushroom forays are events where professionals and amateurs meet, collect fungi, identify and catalogue them, and give lectures, workshops and presentations. Tom thoroughly enjoys the time he gets to spend in the woods mushroom hunting and leading forays. He has attended 16 of the last 17 forays held across the country by the North American Mycological Association (NAMA), and hosted the NAMA international foray here in La Crosse in July 2005. He has also traveled for presentations in Massachusetts, Florida, Oregon and 26 other states.

Tom's appreciation for the time he can spend in the woods and with his students has grown as he's battled various health problems over the past 10 years. He was diagnosed with Hodgkin's disease in 1997. Although he no longer has the disease, he developed heart problems as a result of the radiation he received during his treatment. He uses a defibrillator and takes medication. While in California in January 2005, he picked up a bad foot infection caused by flesh-eating bacteria. The wounds have slowly healed and he has progressed from barely being able to stand, to walking with a walker and a cane, to walking pretty well without assistance. "I am very thankful for kind and supportive e-mails, letters and visits from students, colleagues and friends," says Tom. "I'm doing pretty well, although I hate to say it for fear of jinxing myself."

After spending time with Tom and visiting his Web site, I have to say I can now be considered myco-curious. There's so much to learn, and a teacher like Tom makes it fun and interesting. Who knows? Come summer, you may find me out in the woods hunting for mushrooms.

Amy Carney enjoys freelance writing, in addition to working for La Crosse Magazine and Franciscan Skemp Healthcare.