



MCG NEWS

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MUSHROOM CLUB OF GEORGIA

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Mary Woehrel MWoehrel@atlantabotanicalgarden.org

EDITOR/PAST PRESIDENT

Dan Willis willis31@bellsouth.net

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CLUB MYCOLOGIST

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MUSHROOM CLUB OF GEORGIA

www.mushga.org

GENERAL CLUB MEETINGS

Date: Second Wednesday of each month
unless otherwise notified

Location: Atlanta Botanical Gardens
1345 Piedmont Avenue, NE
Atlanta, GA 30309

Time: 6:30 PM Social
7:00 PM Meeting

MUSHROOM LOVERS PLEASE! PLEASE! PLEASE! TAKE US FOR A WALK!

If you want to lead a mushroom walk in your area, we would be glad to come. Find a place to have a walk and scout it out. If it is a park or nature area, make sure we are permitted to collect mushrooms there.

Call our President, Mary Woehrel at 404-591-1548 or contact her by email at:

mwoehrel@atlantabotanicalgarden.org.

Mary will put the walk on our schedule. Club Identifiers will help with the identification of any mushrooms found on the walk.

EDITORIAL COPY DEADLINES

If you are interested in contributing an article for inclusion in the "MCG News," please submit it to Dan Willis at willis31@bellsouth.net in accord with the following copy deadlines:

Winter Issue (Dec.-Jan.-Feb.) _____ November 1
Spring Issue (Mar.-Apr.-May) _____ February 1
Summer Issue (Jun.-July-Aug.) _____ May 1
Fall Issue (Sep.-Oct.-Nov.) _____ August 1

PRESIDENT'S MESSAGE

By Mary Woehrel

I recently met with Jackie Schieb, Vice President of the Asheville Mushroom Club, our northern neighbor in North Carolina, and her husband Barry. Jean Reber, our Liaison Chair, has been busy contacting other mushroom clubs and organizations in the area to see how we might interact with them. Due to her excellent efforts, we were able to meet with Jackie and Barry at Jean's home to see what might be possible. A number of interesting arrangements and possibilities have come out of it.

We have agreed to affiliate with the Asheville Mushroom Club so that our memberships are reciprocal. This means that any member of the Mushroom Club of Georgia is welcome to attend Asheville's meetings and walks. They normally allow only their members to attend mushroom walks. Their members will also be considered members of our club and are welcome to attend our walks, meetings, and to receive our excellent quarterly email newsletter. The Asheville Club does not currently have a newsletter, but all their walks and events are listed on their website: <http://main.nc.us/amc/>

Since we are only about four hours from each other, we are also considering a joint foray, perhaps next year at a location halfway between the two clubs. This will allow us to get to know mushroom folks from the Asheville Club and to swap ideas and tips.

I hope you will take advantage of this reciprocal membership arrangement with the Asheville club and plan to participate whenever you are in their area. I hope you will also welcome them when they attend our events and walks.

We in Atlanta are considered somewhat latecomers as far as mushroom clubs go. Although mushrooms in the South are plentiful and luxuriant, incredibly there has never been a wild mushroom club in this area before the Mushroom Club of Georgia! The Asheville Club, as well as the Gulf States Mycological Society and the clubs in Knoxville Tennessee and South Carolina are our nearest neighbors.

We, being fairly new to the scene, would benefit greatly by learning from our more

established neighbors. There is a wealth of information, history and camaraderie to be gained by interacting with them. Most mushroom clubs are listed on the NAMA website: <http://namyco.org/clubs/index.html>. Our Club will be listed in a few weeks as we have renewed our NAMA membership. We are also listed on Mykoweb: <http://www.mykoweb.com/index.html>) So take a look around and see what else is going on in the surrounding clubs. And be sure to welcome any Asheville members when you see them at our meetings and walks!

MOREL MUSHROOM FORAY

March 30 and April 1, 2007

By Teresa Fortenberry & Jean Reber

The Morel Mushroom Foray in Jasper County, Georgia sponsored by Chris Matherly was an interesting event. I was very glad when I found out Jean Reber from our club was also going along. Friday was a "Meet and Greet" event. Chris met most of the participants, handed out T-Shirts and had a demonstration of what kind of morels would be found over the weekend. Early Saturday morning, the other participants received directions to the first foray area. Jean and I missed it because we opted to drive down early Saturday morning. However, we were assured that if we stayed in the middle of the group of cars caravanning to the area, we should have no problems. Be sure to get exact directions before you leave. The person driving the last car watched as we took a wrong turn and he never came back for us. Once we finally caught up with the rest of the crowd, we were taken to the final parking area for the morel foray. We did a group shot before starting out. Approximately 23 walkers attended, including Chris and his son, Elijah.



It turned out to be a very nice day, weather-wise, for a morel hunt - not too hot, a little overcast. Great for shooting pictures! The walk in was typical forest, nothing that couldn't be handled.

We followed Chris to his morel site, chatting with others, asking where people were from, what morel stories they had to relate. It was starting out to be such a good day. When we were approaching the first morel site, Chris stopped and allowed his son, Elijah, to go ahead with the camera so he could be in position to take movies of us viewing our first large morels. We all gathered up and waited... and then Chris led us in. He asked us to stay grouped up until the last morel hunters could get in and then he allowed us to walk among the morels, counting, finding, and photographing these beautiful mushrooms!

You can see by the size of the one Jean is holding that these morels are not small. These are the first mushrooms that I have had to actually back the camera away from so I could get the whole mushroom in the shot. In the



original format, the bigger you blow up the picture, the more interesting the morel gets!

After we got as many pictures as we wanted, Chris gathered us together and gave us a little "in-service" on how, when and where to find morels. Around Forsyth, it's the older ASH trees they like. There were LOTS of ash tree seedlings coming up everywhere. They looked a lot like poison ivy. Invasive privet was quite thick in areas and you had to fight your way through it to get to some of the larger morels. You have to be close to water, preferably in an



area that occasionally floods out, but then drains well, too. And they weren't around every ash tree. Some had morels, some didn't. Jean and I talked to several people about mushrooms in general. We met two ladies that live up around Buford, GA, Joan and Gail. They were very interested in the Mushroom Club of Georgia. We also talked to two guys from Kansas, Ron and John. These guys really know their morels! We also talked to a "Morel Mycologist" (remember the guy that watched us take a wrong turn? He sat and took "soil samples" and other measurements for a "study" he was doing). But we had to push on. There were other morel patches to view. "Morel Mycologist" stayed behind. Chris took us across a creek, up an embankment and through thick forest to view another beautiful outbreak of morels.

In this area, there were around 50 large morels. They were so tightly packed in this area; it was difficult getting lined up for pictures. We



We harvested these and pushed onward. Walking was strenuous in places because some of this area was logged out. The logging company left behind many of the tree limbs that they didn't want, so those created plenty of hazards and trip-ups for us. Chris took us downstream to check other large ash trees for possible morel colonies and then back upstream to what was promised to be the "4th of July" finale! We were getting all pumped up. There were other mushrooms also growing. Deer mushrooms and a nice cluster of oyster mushrooms were found, with the oysters being added to our catch. We had to cross the stream again to get to the last patch of morels only to discover that they had already been harvested! Chris was devastated. We were speechless. It truly was a morel murder mystery and the "Morel Mycologist" was the lead suspect in the crime. So, what is the "morel to the story?" Don't let other morel hunters out of your sight! We walked back to the cars, mostly in silence.

After we reached the cars, everyone enjoyed a rest, water, lunch and a view of the morel foray results. It was fascinating to see that

such huge morels do indeed grow in Georgia's forests. We just need to get out there and find out where these "nests" are around Atlanta.



After we got back to the hotel to clean up, Jean and I decided to have dinner in town. The center of town was not but a few short miles away and the old homes were beautiful with the azaleas blooming all around. We had heard from some of the others in our Morel group that a little restaurant called "Grits Café" was excellent. So we decided to give it a try. Part of it is a restaurant and part is a bar. To get quick seating, we opted for the bar. You can choose from either the restaurant menu or the bar menu. I am so glad we looked at the bar menu! Jean got a huge salad and a quesadilla filled with beef and mushrooms and I got "Puff the Magic Mushroom". WE were in HEAVEN. The food was awesome! There were several mushroom items on the menu. "Puff the Magic Mushroom" is a crispy puff pastry filled with a spinach/cheese combination and smothered with a rich sauce filled with a variety of "wild" mushrooms. It is certainly worth the trip out again, and sometime I will have to do that! 45 minute drive? You bet!

Saturday evening we had a very nice morel presentation. Sunday we had another walk on a HUGE farm. There was plenty of natural fertilizer around. We wondered if Shaggy Manes would grow there? We found a few good morels, but most were about an inch tall and dried up. With no rain for over 20 days, it would be difficult for any mushrooms to make an appearance.

Unfortunately, I had to leave by 11AM to repack the car and head out to my daughter's for Spring Break. The others re-grouped at the hotel, cleaned up, packed up and followed Chris down to Macon for the final feast of

morels for lunch. I am told that it was held at a Mexican restaurant, but I have no idea how the dishes were presented. But I was really satisfied with the Grits Café meal from Saturday evening!

During this trip, Jean and I discussed quite a lot about the club, shared ideas on how to make things better, what direction the club would like to go, and maybe the possibility of sponsoring an event like this morel foray. Maybe we could have a Bolete Foray or a Chanterelle Foray? It was very exciting to meet other people from other parts of the country with the same interests as our own. To be in the company of mushroom enthusiasts for a whole weekend was quite an experience! See you at the next walk!

THE MYSTERY OF INKY CAPS

Some of Nature's Children Do Strange and Interesting Things!

By Hazel Hankinson

Better Homes and Gardens

MARCH 1929

(Ed. Note: While perusing my archives, I came across this fascinating article on Inky Caps from 1929. I wonder how many of these people had a glass of wine with these mushrooms and had a psychedelic trip! I wouldn't know anything about that stuff!)

There is fascination and romance and mystery in a little mushroom that grows near many a home in cities and towns of the northern states. Like most mushrooms, it pops out of the ground in the same places time after time when there has been a day or two of rainy weather. You may find them at almost any time, in the fall as well as in the spring and summer, as you walk along the street, for they shoot up in thick clusters in lawns and near the curbing. Especially are they likely to be found at the bases of large old trees with protruding roots where pockets of dead bark and soil have formed. These mystic visitors usually come in crowds for their brief call, and then presto! They have disappeared in the weirdest way imaginable. They melt away in a pool of ink! For that reason they are know as "Inky Caps."

When the Inky Caps first rise out of the ground, they are shaped something like tiny thimbles of a creamy-tan shade, and they are held up on

slender white stems. The inside of the “thimble,” or the gills of the mushrooms, are also delicate tan. But before the Inky Cap is many hours old, its light coloring begins to turn dark, both inside and out, and it is not long before it looks more like a ragged umbrella than a dainty finger cover. Next day you may be surprised to find only a black blot on the ground with never a sign of thimble or umbrella or stem.

The romance and the mystery of the Inky Caps lie in this very pool of black, which marks the end of their brief day. For that splash of ink contains those strange spore-like bodies that take the place of seeds in other plants. Wherever the spores’ fall, their new mushrooms will grow in the magic fashion that almost everyone has seen. This very ink has also led the Inky Caps into important and exciting adventures in the world. For detectives have found that when they wish to prove positively that a certain ink has been used in writing, they can mix spores of the Inky Cap with the ordinary ink that is to be used. When under the microscope there can be no mistaking it. Thus it has been possible sometimes to discover fraud and deception and trickery.

You would not think of eating Inky Caps when they are black and tattered and nearly ready to dissolve into ink; but when they are tender and crisp and young, they are delicious morsels for the table. There are no poisonous mushrooms that look anything like the Inky Caps, so it is quite safe to gather them. Sometimes you can find a pound or two of the young plants in one place. You are in luck, then, if you are fond of mushrooms. When they have been washed, placed in a pan with a small amount of browned butter, cooked slowly for 10 or 15 minutes, and served on buttered toast----ummmm! You’ll call for more!

EVERYWHERE AND ANYWHERE

By Dan Willis

(Ed. Note: When gathering wild mushrooms, keep a journal of the habitat that the species were found in and send this information to me at willis31@bellsouth.net. I will add it to my file on mushrooms and their habitat. The summary of the contributions will be published in a future newsletter.)

The best place to find wild mushrooms is everywhere and anywhere! This is not an over simplification.

Mushrooms usually require specific substrates such as living or dead wood, compost, leaves, or dung. Many have a symbiotic relationship with trees and plants. You may have to look on the ground or on trees, beneath conifers or hardwoods, in meadows, or swamps. It is necessary to understand mushroom habitats in order to know where to find them.

I know many over-enthusiast hunters who eagerly gather mushrooms from their places of growth without having noticed the surrounding environment and biological community. If you ask them where they found them, the usual response is “I found them in the woods, the yard, under a bush, etc.” Until you start correlating the habitat with a specific mushroom, they do appear to grow everywhere and anywhere.

How About Fungi on Fungi?

Parasitic fungi are found on living plants and animal tissue. One of the more notable is *Boletus parasiticus* that live on the fungus *Scleroderma citrinum*.

Mushroom Associates: *Asterphora spp.*, *Collybia spp.*, *Hypomyces spp.*, *Volvariella spp.*, and others.

Everybody’s Yard and Garden

Saprophytic fungi live on dead wood or dead tissue of living trees, and on leaf litter. In most yards and gardens you can encounter are the delicious *Marasmius oreades* (Fairy Ring Mushroom), *Agaricus bisporus* (Common Button Mushroom), and *Agaricus campestris* (Meadow Mushroom).

Some species of mushrooms seem to prefer disturbed ground found in gardens, pathways, and along roadsides. The most famous, rumored to grow along the roadside in north Georgia, is the *Coprinus comatus* (Shaggy Mane) although I have yet to encounter them. I have also heard that they have a strange affinity to asphalt but haven’t had the experience of finding any on the tennis court!

Mushroom Associates: *Agaricus spp.*, *Amanita spp.*, *Calvatia spp.*, *Clitocybe spp.*, *Clitocybe spp.*, *Collybia spp.*, *Marasmius spp.*, *Coprinus*

spp., *Hypholoma* spp., *Lepiota* spp., *Morchella* spp., *Phallus* spp., *Panaeolus* spp., *Pholiota* spp., *Psathyrella* spp., and others.

Not So Yucky! Dung and Manure

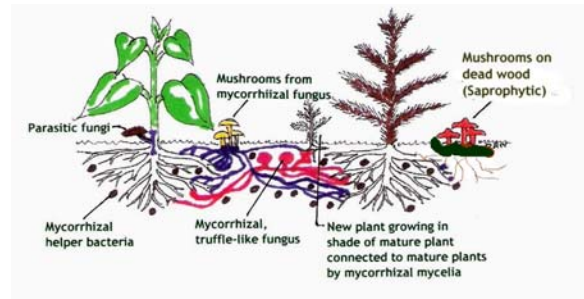
Saprophytic fungi also can be found on dung, manure, and compost piles that are kept moist. An edible and desirable species is *Agaricus bisporus*, the common button mushroom.

Mushroom Associates: *Agaricus* spp., *Agrocybe* spp., *Clitocybe* spp., *Coprinus* spp., *Panaeolus* spp., *Psilocybe* spp., *Volvariella* spp., and others.

Know Your Georgia Native Trees

Certain types of native trees and plants in Georgia and the South have a symbiotic relationship with ectomycorrhizal fungi and their fruiting bodies that we recognize as mushrooms.

Since trees are a significant key to locating mushrooms, it makes sense to learn to identify a few of the native trees before you learn to identify hundreds of mushrooms. Get in the habit of identifying and recording the trees and the mushrooms that are associated with them.



Remember that tree roots extend out to at least the drip line of the trees. In a mixed forest, roots of other trees may be intermingled with each other. In addition, the mycorrhizal fungi attached to the tree roots extend well past the tree drip line and can be interconnected to other trees.

1. American Beech (*Fagus grandifolia*) is found throughout Georgia with other hardwoods in moist soils, usually along streams. The bark is easily recognized being thin, bluish gray, and smooth.



Mushroom Associates: *Amanita* spp.; *Bolete* spp., *Climacodon* spp., *Cortinarius* spp., *Hymenoscyphus* spp., *Laccaria* spp., *Phlebia* spp., *Pluteus* spp., and many others.

2. American Elm (*Ulmus americana*) is usually found on moist, fertile soil near streams. The former range was throughout the Coastal Plain and much of the Piedmont. Sadly, many of the elms are dead or dying from Dutch elm disease. These once majestic trees stood 75 to 100 feet high with trunks up to 5 feet in diameter.



Mushroom Associates: *Morchella esculenta* (Yellow Morels) and others.

3. Black Walnut (*Juglans nigra*) secrete a chemical that inhibits the growth of other trees and so are usually found in pure stands, particularly where logging or fire has occurred. They are found on fertile soils and occur generally in the Piedmont and mountain region and sparingly along the coast of Georgia. The compound leaves are 1-2 foot long composed of 15 or more leaflets. The twigs have a chambered, pithy interior. The yellowish, hairy husk of the fruit turns black with age and readily stains your fingers.



Mushroom Associates: *Mycena* spp.; *Russula* spp.; and others.

4. Eastern Cottonwood (*Populus deltoids*) tree is found along streams and river bottoms throughout Georgia but nowhere in



abundance. The Cottonwood is closely related to the Quaking Aspen found out West. They can reach heights of 100 feet with trunks up to 5 feet in diameter. The oval-triangular leaves with rounded teeth make this an easy tree to spot.

Mushroom Associates: *Amanita populiphila* (Cottonwood Amanita), *Gyromitra caroliniana* (False Morel), *Morchella esculenta*, *Lactarius* spp., and others.

5. Eastern Hemlock (*Tsuga canadensis*) is found mostly in the mountains of the Valley and Ridge and the Blue Ridge areas where it occurs along streams and on the more fertile slopes. The branches are almost always horizontal with needles that are less than 1 inch long.



Mushroom Associates: *Ganoderma tsugae* (obviously named for the hemlock); *Amanita* spp.; *Boletus* spp.; *Lactarius* spp.; *Russula* spp.; *Suillus* spp.; *Tricholomopsis* spp.; and others.

6. Eastern Red Cedar (*Juniperus virginiana*) is found to some extent throughout Georgia but especially on the poor, rocky soil of the limestone ridges in northwest Georgia. It is usually found mixed with hardwoods. The reddish-brown bark tends to peel away as it ages. The young needles are sharp and needle-like less than 1/2 inch long.



Mushroom Associates: *Morchella* spp.; *Gymnosporangium juniperi-virginianae* (cedar-apple rust).

7. Eastern White Pine (*Pinus strobes*) is known to occur throughout the Blue Ridge mountain region in the northern part of Georgia,



usually in the cool, moist coves and valleys. Finding a virgin growth of this Georgia native may be difficult since most were harvested in the 19th century for timber. The needles are 2-4 inches long in twisted bundles of 5.

Mushroom Associates: *Collybia* spp.; *Cortinarius* spp., *Hydnellum* spp., *Lactarius* spp., *Morchella* spp., *Russula* spp., occasionally *Suillus* spp., and other species.

8. Sycamore (*Plantanus occidentalis*) tree can be found typically along stream banks and lowlands throughout Georgia but not at higher elevations. They can reach a height of over 100 feet and a diameter greater than 8 feet. The coarsely toothed, pointed lobes remind one of leaves on steroids. The fruit is a hairy, 1-2 inch ball.



Mushroom Associates: *Gyromitra* spp., *Morchella* spp. (river beds and creek bottoms), *Marasmius* spp., *Polyporus* spp., *Rhodotus* spp., and others.

9. River Birch (*Betula nigra*) is a common stream bank tree of the lower mountains and Piedmont region. The peeling, papery bark and doubly toothed leaves identify this tree.



Mycorrhizal Associates: *Amanita* spp.; *Lactarius* spp.; and other species.

10. Shagbark Hickory (*Carya ovata*) is a scattered tree found in the low hills and along streams and swamps on fertile soils, generally in the Piedmont and mountain region. They have compound leaves of 5 to 7 leaflets.



Mycorrhizal Associates: *Amanita* spp., *Cantharellus* spp., *Lactarius* spp., and others.

11. White Ash (*Fraxinus americana*) is normally found on moist, fertile soil throughout Georgia. They are most abundant in the mountains (Valley and Ridge & The Blue Ridge) and Piedmont region. They have a compound leaf composed of 5-9 leaflets. This is one of the most important trees that you MUST recognize if you want to have any chance of finding both yellow and black morels in Georgia and the South.



Mushroom Associates: *Morchella spp.*, and others.

12. Yellow Poplar (*Liriodendron tulipifera*), sometimes called the Tulip Poplar, is found usually on deep, rich, rather moist soils and occurs throughout Georgia. It really isn't in the *Populus* family. It can be mistaken for the White Ash tree; however, the tulip poplar can be identified by looking for seedpods high up in the branches of the tree.



Mushroom Associates: *Morchella spp.*; and others.

13. Oak Trees (*Quercus spp.*) are prolific throughout Georgia. Please refer to one of the reference books for detailed descriptions.

Northern Red Oak (*Q. rubra*) found on low ground and along small streams in mountain and Piedmont regions.

Overcup Oak (*Q. lyrata*) is confined to stream bottomlands and rich low ground in the Piedmont region and deep swamps of the Coastal plain.

Water Oak (*Q. nigra*) is a stream bank and low ground tree from the Coastal plain through the Piedmont region.

White Oak (*Q. alba*) is found in rich uplands or moist bottom lands throughout the Piedmont and lower mountains.

Willow Oak (*Q. phellos*) is found on low ground in the Coastal plain and sparingly into the Piedmont region.

Mushroom Associates: *Amanita spp.*, *Boletus spp.*, *Chamaeota spp.*, *Favolus spp.*, *Laccaria spp.*, *Laetiporus spp.*, *Leotia spp.*, *Russula spp.*, *Tylopilus spp.*, and others.

References:

Native Trees of Georgia, G. Norman Bishop, D. B. Warnell School of Forest Resources, 2001, Eleventh Printing.

Trees of Georgia and Adjacent States; Claud L. Brown & L. Katherine Kirkman, 1990, Timber Press.

A Guide to Field Identification of Trees of North America; C. Frank Brockman, Herbert S. Zim, & Rebecca A. Merrilees, 1968, Golden Press

TRUFFLES: COVETED, FRENCH, AND NOW IN TENNESSEE

By Molly O'Neill
February 28, 2007
Chucky, Tenn.

The town of Chucky is located on the upside of the Nolichucky River valley in an eastern jut of Tennessee about 20 miles from the crest of the Blue Ridge Mountains and the North Carolina border.

The East Tennessee and Virginia Railroad used to stop in the town to pick up grain and tobacco, but the red brick station,



built in 1906, is long since abandoned. Many of the farms have given way to middle income housing and the workers among the town's 800 or so residents tend to punch the clock at the Wal-Mart Distribution Center or in factories

that make gift wrap, automotive parts or lawnmowers.

Chuckey is not the sort of place one expects to find the holy grail of the food-loving world. But on the edge of town, perched on a south-facing slope overlooking the birthplace of Davy Crockett, an orchard of 350 hazelnut trees has begun to sprout Périgord truffles, the fragrant black fungi that can send epicures, as well as routing pigs and dogs, into fits of frenzied greed.

The truffles from Chuckey are not the first American-grown Périgord truffles. They are, however, the first American grown black truffles to excite some of the country's top chefs, like, Daniel Boulud, Thomas Keller, John Fler and Jonathan Waxman.

Although unexpected, the Tennessee truffles were not unplanned. Tom Michaels, a 59-year-old plant pathologist, pianist and Scrabble tournament competitor, sprouted the hazelnut trees from seeds. He inoculated their roots with *Tuber melanosporum*, the Périgord truffle, before setting them in his backyard seven years ago.



He resisted dreams of a truffle bonanza as assiduously as he limed his soil and trimmed his trees. Dr. Michaels had, after all, grown up on a mushroom farm west of Chicago and had written his thesis on the difficulty of the in-vitro cultivation and growth of *T. melanosporum*.

He knew that millions of dollars have been lost since the 1970s in the attempt to cultivate truffles in the United States. Some of the failures were spectacular. One multimillion-dollar orchard in Hext, Tex., is now being managed as a game preserve.

When, on the morning of Jan. 3, he noticed patches of the tawny Tennessee soil bubbling up like blistered asphalt in his orchard,

however, Dr. Michaels lost his circumspection. "I was jumping around yelling 'Eureka!' " He said. And that was before he saw the size of the bulbs, before he felt them and smelled them and tasted them, before one of his truffles had found its way into the chef Daniel Boulud's kitchen in Manhattan, before the chef had confirmed the grower's suspicion.

"This is it," Mr. Boulud said. "The first time in America. This Tennessee truffle is the real thing."

Only then did Dr. Michaels realize that up to 150 pounds of world class truffles could be ripening in the ground behind his modest three-bedroom ranch, and that he had neither dog nor pig to sniff them out before they withered and disappeared.

"Growing truffles is not like growing tomatoes," he said. "You don't just plant them one day and know that a certain number of days later they will fruit."

In fact, to grow truffles is to govern an intricate culture of plant and fungus life, as well as environmental conditions, not all of which are known and most of which are hidden underground.

Tending a truffle orchard is as much of an art as it is a science and it is, most of all, an act of faith - it typically takes 6 to 12 years for the fungi to form truffles in the earth. Mystery and scarcity are part of the truffle's allure.

According to James M. Trappe, a professor emeritus of mycology at Oregon State University and the co-author of the forthcoming "*Trees, Truffles and Beasts: How Forests Function*" (Rutgers University Press), there are about 60 species of true truffles, the subterranean fungi that attach to a plant's roots and issue long tendrils that gather nutrition for the plant and use the carbohydrates that the plant returns to eventually form the "fruit" we call truffles - but only a dozen are prized in the kitchen.

Most fungi sprout a stem and cap that contain reproductive spores. The truffle does not. The truffle is a "sack of spores," explained Dr. Trappe, and while other mushrooms need nothing but a rustling wind to loosen and spread their seed, the subterranean bulb needs to be digested and excreted by an animal. In order to attract rodents and marsupials, the

truffle, like a tiny underground perfume factory, produces up to 50 different chemicals that combine to create a scent powerful enough to penetrate up to three feet of earth.

"Some smell like cheese, some like garlic, some like fruit, some like sewer gas," Dr. Trappe said. The aroma of *T. melanosporum*, generally a mixture of musk and fruit and forest floor, and the earthy, garlicky *Tuber magnatum*, or Italian white truffle, is the most prized.



The Burgundy truffle, which thrives in a cooler climate and is currently being tested by Johann Brunn at the University of Missouri and the white Oregon truffle also have a pronounced aroma. The summer truffle and the pecan truffle from the American South are milder.

Truffles occur naturally, but the most prized ones have been disappearing since the late 19th century. By all accounts, current Périgord truffle production is only about 5 percent of what it was back then. Until recently, they resisted all attempts at controlled cultivation. French scientists, Dr. Trappe said, patented a technique for inoculating the roots of traditional host trees - the hazelnut and three different varieties of oak - with truffle spores. The result was seedlings that could be planted in any hospitable soil. In the late 1970s, orchards were planted in northern California, and in 1980, Franklin Garland, a greenhouse owner from Hillsborough, N.C., bought some of the French-inoculated trees and planted them outside his hometown.

Meanwhile, at Oregon State University, Tom Michaels was completing his doctorate, running field trials of truffle cultivation research. Dr. Michaels worked in mushroom research for six years before starting his own button mushroom farm. He sold it in 1992 to follow his wife, a physician, to Tennessee, where she had accepted a position. He had intended to be Mr. Mom, he said, but his plans changed after he

drove across the mountains to North Carolina's Piedmont district to visit Mr. Garland.

"He only had a couple truffles," Dr. Michaels said. "He had significant 'brûlé,' " - the circle of burned vegetation around the base of trees that is the classic signature of the presence of the truffle fungus. "As soon as I saw that, my truffle light went on."

His doctoral research had demonstrated that truffles prefer warm, dry summers; cool, wet winters; and alkaline soil like that of eastern Tennessee. He knew that *T. melanosporum's* natural enemies are the dozens of other fungi eager to colonize the roots of hazelnut or oak trees. The limestone soil in his backyard, he figured, was similar to the soil of the Périgord region, to which *T. melanosporum* - but not necessarily its competitors - had, over millennia, adapted. After several years of experimenting with different ground covers and fertilizers, he put in his first orchard in 2000. By this January, when his first crop appeared, Dr. Michaels had three separate plots of land with about 2,500 trees in cultivation.

Dr. Michaels is the first domestic truffle farmer to produce commercial quantities of truffles of a quality that commands top dollar (\$50 an ounce, \$800 a pound). But he is not the only one panning for black gold. There are, said Charles K. Lefevre, the owner of New World Truffieres in Eugene, Ore., about 300 promising orchards on American soil. "The same sort of people you find growing grapes in California are starting to plant truffle orchards," said Dr. Lefevre, whose company last year supplied about 13,000 inoculated trees to about 50 hopeful growers.

In Hillsborough, Mr. Garland's nursery, Garland Truffles, supplies a similar quantity of inoculated trees. With a \$235,000 grant from the North Carolina Tobacco Trust Fund, which supports research that may benefit former tobacco farmers, Mr. Garland has also supplied 45 of those farmers with trees. If even a small number of these orchards succeed, truffles will be more plentiful and their prices may begin to drop.

But while the science of truffle cultivation has improved, the secret of coaxing Périgord truffles from the earth remains tucked in an unlikely corner.

"Take a right at the House of Hidden Treasures," Dr. Michaels instructs visitors to Chuckey, "then follow that road past some mobile homes. I'm the last driveway on the right."

MUSHROOM RECIPES

By Dan Willis

(Ed. Note: Please submit your own recipes to me and I will include them in the next newsletter. I love testing new recipes.)

PUFFBALL SOUP

Puffballs are very popular among wild mushroom hunters, but they can be tricky to work with. They respond well to cooking in seaweed such as nori found in Asian markets. Serves 8 to 10.

1/3-cup butter

1 large onion, finely diced

4 cups chopped fresh puffballs in 1/2-inch cubes

2 cups heavy cream

2 cups milk

3 tablespoons dried loose seaweed (nori found at Harry's in Asian section)

Salt

Place the butter in a large saucepan over medium heat. Add the onion and sauté until lightly browned, about 5 minutes.

Add the puffballs and sauté for 5 minutes more. The puffballs will release some liquid.

Add the cream, milk, and seaweed. Simmer for 20 minutes. The soup will thicken slightly. Salt to taste.

HONEY MUSHROOMS WITH CHICKEN

This casserole uses honey mushrooms, long a favorite of wild mushroom hunters, and leftover chicken or turkey. Other mushrooms can be used but they should be soft and pliable. Substitute shitake caps but not button or portobello mushrooms. Serves 4.

4-tablespoons butter

1 medium onion, chopped

1-lb. fresh honey mushrooms, caps only, cleaned

3/4-cup sour cream

1-teaspoon dried thyme

1-teaspoon dried savory

1/4-teaspoon sugar

Salt and pepper to taste

1-1/2 cups leftover cooked chicken, off the bone

2-tablespoons finely chopped fresh parsley

Heat the butter in a large sauté pan over medium heat. Add the onion and sauté for 1 minute. Add the mushrooms and continue to sauté until the mushrooms sweat and release their liquid into the pan, about 5 minutes. Add the sour cream and stir to blend with the mushrooms. Add the thyme, savory, and sugar, and season to taste with salt and pepper.

Mix in the chicken, and let the mixture simmer until it thickens, about 2 minutes. Stir in the parsley and serve over toast.

CHANTERELLES AND RAMPS

Ramps are wild leeks that have a garlicky flavor. Scallions or regular leeks can be substituted but add some garlic to give it a similar flavor. Serves 4.

4-ounces ramps

3-tablespoons butter

1-teaspoon ginger

14-ounces of chanterelles, well rinsed

Soy sauce

Salt

Sugar

1-teaspoon cornstarch mixed with 1-tablespoon of water

Cut off the roots of each ramp, then cut off the ramp where the white ends and the leafy part begins.

Place the butter in a large sauté pan over medium heat. Add the ramps and ginger and sauté for 1 minute over medium-high heat.

Add the mushrooms and continue to sauté for 3-4 minutes or about a third of the liquid has cooked away. Season to taste with soy sauce, salt, and sugar.

Stir in the cornstarch mixture and heat until thicken and serve.

MUSHROOM CLUB OF GEORGIA

MEMBERSHIP APPLICATION

Applications are effective for one calendar year, beginning January 1st

Check membership level: _____ Individual (\$15) _____ Family (\$20)
 _____ Individual Lifetime (\$200) _____ Family Lifetime (\$300)
 _____ Supporting* (\$500) _____ Full Time Student (\$10)

*Supporting Membership includes a Lifetime Family Membership

TOTAL ENCLOSED: \$ _____ Cash Check # _____

(Please Print Clearly)

Today's Date _____ Circle one: New or Renewal

Name _____

Additional Name _____

Street _____

City _____ Zip Code _____

Phone_(_____) _____ Alternate Phone_(_____) _____

Email _____

Liability and Release Form

I (We) realize that when engaged in wild mushroom activities, that serious physical injury and personal property damage may accidentally occur. I (We) further realize that there is always the possibility of having an allergic reaction to or being poisoned by the eating of wild mushrooms and that these adverse reactions to eating wild mushrooms range from mild indigestion to fatal illness.

Knowing the risks, I (We) agree to assume the risks, and agree to release, hold harmless, and to indemnify the Mushroom Club of Georgia, and any officer or member thereof, from any and all legal responsibility for injuries or accidents incurred by myself or my family during or as a result of any mushroom identification, walk, foray, field trip, excursion, meeting or dining, sponsored by the club.

Member's Name (please print clearly) _____

Signature _____ Date: _____

Additional Member's Name (please print clearly) _____

Signature _____ Date: _____

Please return completed, signed and dated form with check payable to "Mushroom Club of Georgia"

Please mail to:

Janet Joiner, Treasurer, P.O. Box 420255, Atlanta, Georgia 30342