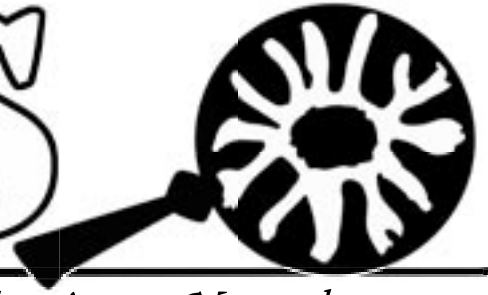


nyms



Spring 2007 New York Mycological Society Newsletter

Morels are back in town

With any luck.

Spring ushers in the morels, the first real mushroom hunting opportunity since the fall. Although... the late freezing of this past winter allowed the fall season to linger well into January. People reported oysters in Central Park and other locations.

Now, however, is the real deal. Morels have a time of their own. In our area (within a 2-hour drive from New York City), the last weeks of April and the first weeks of May (depending on the weather), round out the typical morel season. Different species of morels have microseasons: black morels (*Morchella angusticeps*) are out sooner than the blonde (*M. esculenta*), with the half-free morel (*M. semilibera*) falling somewhere in between, and *M. deliciosa* the last to appear. Look under dying elms and in old apple orchards, in forests where you find tulip poplars and around ash and maybe even sycamore and black cherry trees (according to some reports, depending on the soil type in which they're found).

Last year NYMS vice president and walks coordinator Dennis Aita gave an in-depth interview with us, in which he described the topographic particulars of likely morel spots (see NYMS newsletter April 2006; online at: <http://newyorkmyc.org>). He told us then about factors such as soil type and temperature that seem to have an effect on when and where morels appear.

So, why all the buzz about this mushroom when there are other fantastic ones, maybe considered tastier than morels? I have been asking myself that question lately. I love morels and I especially love the morel breakfast and hunt. Those events are truly some of my favorite times out attempting to find mushrooms. For me, at least part of the allure is the element of the elusive. Other mushrooms blend in with the scenery, but the morel seems invisible. And then, you see one. After that, there they are. The area is full of them. Hopefully.

If no one else has gotten there first. The season for morels is a few weeks. As has been written often, mushroom hunters guard their morel locations. On the East Coast, where the old apple orchards have gone to housing developments, morel hunting is indeed a brief and competitive moment in the spring.

Some markers for the morel season include the appearance of apple blossoms and lilacs. According to Dennis, the soil type and temperature are of paramount importance. Morels like well-drained, light soil. It (the soil) cannot be colder than 47° and is really more optimal at 50°. Morel spots still exist north of New York City and southwest of the city in New Jersey. Hope to see you at the breakfast.

Pamela

≡ *Inside This Issue* ≡

Page 2 NYMS biz, new prez sez

Page 3 Doing it in the park

Page 4 Data, wikis, web what-nots

Page 5 Elinoar brings it from underground

Pages 6-7 Mycophagic mastery

Pages 8-15 Forays, weekends, events reviewed, fungi in the science news

↘ *Upcoming Events* ↙

Sunday April 15: Last lecture of the 2007 Emil Lang Lecture Series. Surprise dramatic presentation. Kaufman Theater, AMNH, 1 pm.

Saturday April 28: Morel Breakfast and Hunt. For members only! See page 2.

Saturday May 5: Morel hunt. Also for members only.

Sunday June 24: Central Park walk. Gary Lincoff leader.

July 27-29: Chanterelle Weekend. See details inside.

August 9-12: 13th Annual Samuel Ristich NEMF Foray. Orono, Maine. Details inside.

August 16-19: Orson Miller Memorial (NAMA) Foray. Pipestem State Park, West Virginia. Read on inside.

August 22-26: Telluride Mushroom Festival. Telluride, Colorado. Keep reading.

Saturday September 8 (raindate: Sunday the 9th): NYMS—COMA (Connecticut Mycological Association) picnic at Fahnstock State Park.

September 28-30: Catskills Weekend. Check the summer newsletter for the September and Fall events.



NYMS Newsletter

Editor—Pam Kray

Graphic design—Maria Reidelbach

A quarterly publication of the New York Mycological Society, distributed to its members.

President—Maria Reidelbach

Vice President—Dennis Aita

Secretary—Paul Sadowski

Treasurer—Charles Luce

Walks Coordinator—Dennis Aita

Lecture Coordinator—Gary Lincoff

Study Group—Paul Sadowski

Archivist—Ralph Cox

Webmaster—Arthur Barlow

<http://newyorkmyc.org>

Articles should be sent to:

Pam Kray

633 E. 11 Street, #2

New York, NY 10009

pamkray@mindspring.com

Membership inquiries:

Charles Luce

518 Gregory Ave. C312

Weehawken, NJ 07086

bryanandluce@verizon.net

Address corrections:

Paul Sadowski

205 E. 94 St., #9

New York, NY 10128-3780

pabloski1@verizon.net

All statements and opinions written in this newsletter belong solely to the individual author and in no way represent or reflect the opinions or policies of the New York Mycological Society.

Submissions for the winter issue of the NYMS newsletter must reach the editor by July 1, 2007. Various formats are acceptable for manuscripts. Address questions to Pam Kray, editor. See above for addresses.

BREAKING NEWS AND ANNOUNCEMENTS

New York Mycological Society Business

As you know, after several years of service to the NYMS as president and treasurer, Maggie Vall and Alice Barner have stepped down from their offices. With thanks and bravos to both Maggie and Alice for the outstanding years of service. We'll miss your expertise and wisdom in these positions, as we wish you both joy and happiness in your coming free time.

Introducing the new slate of officers:

President: Maria Reidelbach

Vice President: Dennis Aita

Secretary: Paul Sadowski

Treasurer: Charles Luce

Welcome to the new officers Maria and Charles. Thank you Paul and Dennis as you continue in your duties for our Society.

From the New Prez

Seven years ago, I looked forward to my first walk with the New York Mycological Society with an intense enthusiasm that, as the day drew nearer, became acute anxiety. The night before, I could hardly sleep.

I think I was afraid of rejection. I've never been a "joiner," never belonged to clubs. My knowledge of mushrooms was minimal. I first hunted with my mother—puffballs in the Allegheny Mountains—just as she did with her mother. Later, sharing an old Ulster County farmhouse with friends, we got a few guidebooks, hunted weekends, were very timid about edibles and were seldom sure of our identifications. We ate mostly black trumpets, and, not knowing our daring, honey mushrooms. After we gave up the house I found that I missed my holiday hunts and, having heard of the NYMS, decided to join.

Thus leading to my sleepless night. By morning I was sure that I was going to be facing a group of completely accomplished experts, clad in khaki suits and pith helmets, magnifying glasses dangling from chatelaines, all spouting impeccable botanical names that I'd never

Cont. p. 14

Emil Lang Winter Lectures & Business Meeting Recaps

Gary Lincoff kicked off the 2007 lecture season on January 28, at the American Museum of Natural History. Gary showed us New York City mushrooms, spotlighting the findings in and around Central Park. Even as we sat, he said, oyster mushrooms were still coming up in the Park. It was an informative and illuminating talk to get the year going.

Business Meeting of February 25.

There was a very nice showing of membership at the business meeting. We discussed the proposed Central Park Project (see p. 3), the updating of the Emil Lang Edibility Project and using a *wiki* to gather members' data (see p. 4).

We discussed the possible changes coming up in the accommodations for the Chanterelle Weekend (see p.8). Also, this year, we may be making joint events out of the Catskills Weekend, with the Mid Hudson Mycological Association; and the Tallman walk in September might be a jointly sponsored event with the Brooklyn Botanical Garden. Watch for more information on these events in the summer newsletter.

Upcoming.

March 18th's presentation by NYMS member and Mid Hudson Mycological Association President, David Work, will have taken place by the time you receive this. See David's article, *The Wild Epicure*, to get an idea of the tenor of his talk if you were not able to be there.

The last lecture of the season will be on Sunday April 15, in the Kaufman Theater at the American Museum of Natural History. I believe that there will be a surprise presentation. Attendance is highly recommended.

Of course, the big piece of news is that the Morel breakfast and hunt is on Saturday April 28. We thank Howard Goldstein and Mimi Calhoun once again for their hospitality. Only current members are invited to the breakfast and to the hunt. If you are a paid-up member, you have the insert with this newsletter with instructions and contact information.

Central Park Project

The New York Mycological Society has a new endeavor: the Central Park Project. Its genesis was during the Central Park BioBlitz of 2006, which took place from Friday June 23, 12 noon to Saturday June 24, 12 noon. That event was sponsored by the Explorers Club, the E.O. Wilson Foundation, and the Central Park Conservancy. The Explorers Club website describes what happened: "Following the opening ceremony, specialized teams of scientists, naturalists, and volunteers set out to explore Central Park in a two-day inventory of the Park's living organisms." (<http://www.explorers.org/projects/bioblitz/bioblitz2006/bioblitz2006.php>)

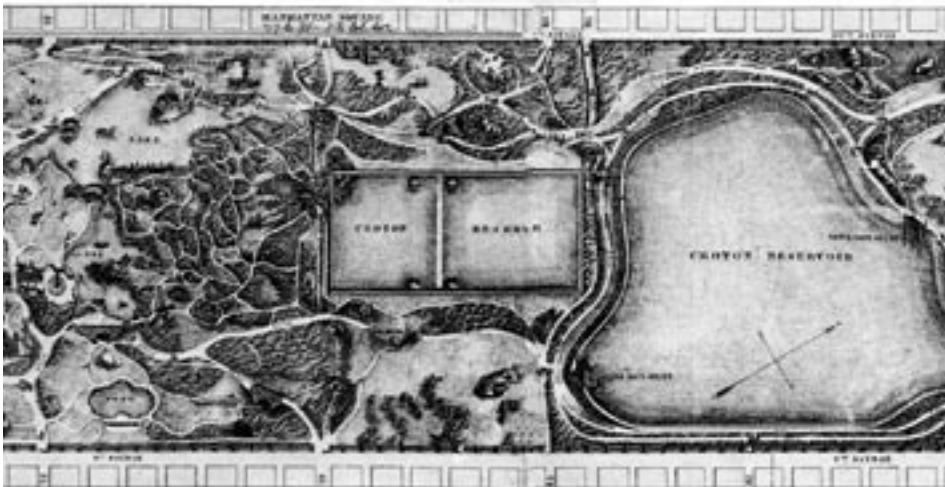
Members of the New York Mycological Society took part in the 2006 Central Park BioBlitz. However, for Gary Lincoff, the 24-hour, 2-day event was lacking for the kind of mycological survey that might really shed some light on what is coming up in Central Park. As a result of his perception that a more adequate exploration would involve more time, Gary initiated a month-long survey of Central Park's fungal fruitings. A few NYMS members continued to foray with him daily.

Gary reported on the month's findings in the fall issue of the NYMS newsletter (*July in the Park with Mushrooms*). Now, as we approach the mushroom growing season of 2007, the NYMS, under the direction of Gary Lincoff, is proposing to undertake a more lengthy mycological survey of Central Park.

One method suggested has been to divide the Park into four to six (or so) "quadrants", each of which will have a leader or point person and volunteers under them to go out (accomplishing a daily inventory) of each "quadrant" or zone. At the business meeting of February 25, the matter of whether to acquire a GPS (global positioning system) for our club was discussed. There are many options, including borrowing or receiving donated ones or buying one or more. Member Liane Newton has volunteered to look into the best method to chart the Park, including working with GPS devices. If anyone has a GPS to donate or loan, contact Liane (agdev@earthlink.net) or Dennis Aita (denaita@verizon.net).

Central Park's size and diversity of plant species and topography makes it a good survey candidate under our noses here in the City. Hopefully, many people will want to get out into the Park. Some leaders have already been named. To volunteer as a leader or for more information on who to contact and how to participate in the New York Mycological Society's Central Park Project, contact Gary Lincoff (garylincoff@earthlink.net; phone #212-662-2651).

After the Central Park Project and in conjunction with it, other under-examined areas, such as Greenbrook Sanctuary in New Jersey, might come up for similar consideration. Watch for more information on the upcoming surveying activities. Now that the NYMS website (<http://newyorkmyc.org>) is more comprehensive for our usage, we will have the ability to catalog the area's finds on an ongoing basis. And, on that subject, see the article on the proposed NYMS wiki, next page. 🍄



Remember!

2007 membership renewals received after April 1st are at the new member rate of \$20 (individual) and \$30 (family). Make checks payable to the New York Mycological Society. If you wish to become a member of NAMA (the North American Mycological Association), make a separate check for \$32, payable to NAMA and mail it with the NYMS dues to Charles Luce, Secretary, 518 Gregory Ave. #C312, Weehawken, NJ 07086. See the membership coupon in this issue.

If you are not paid up as of now, you are not receiving directions to the Morel breakfast and you are not entitled to attend. Paid members should have directions included with this newsletter. If it is missing, contact Paul Sadowski (pabloski1@verizon.net) but *only* if you are paid up.

Stay responsibly in touch with us. If your telephone number, mailing or email address changes, please contact Paul Sadowski, Secretary with your new information. An additional note for listserv users: please remember to set your spam filter to be able to receive listserv emails.

NYMS walks policy: We meet when public transportation arrives. Check the walks schedule for other transportation notes. Walks last 5-6 hours and are of moderate difficulty except where noted. Bring lunch, water, knife, and a basket for mushrooms. Leaders have discretion to cancel walks in case of rain or very dry conditions. Be sure to check your email or contact the walk leader before a walk to see if it has been canceled for some reason. Non-members' attendance is \$5.

Warning: Many mushrooms are toxic. Neither the Society nor individual members are responsible for the identification or edibility of any fungus.

The new, improved *again* NYMS site:
www.newyorkmyc.org

Northeast Mycological Federation
www.nemf.org,

Gene Yetter's Northeast Foray data
www.nemfdata.org

Overlooked New York:
www.overlookednewyork.com

World Wide Mycelium

From Gene Yetter, December 27, 2006: I have put up on the Internet some web pages presenting information from the Northeast Foray database that I have been working on since the late eighties. It made sense to me that I should put up these pages to simplify for myself and for Ursula Hoffmann, Webmaster of <http://www.nemf.org>, the process of distributing Northeast Foray data. My new site, <http://www.nemfdata.org>, provides access to several Adobe reports including, for example, a complete list of fungi recorded over 30 years. Both the NEMF and the database sites are cross-linked. In addition, the web hosting service that I use makes available guestbook and messageboard features, which, I hope, will be used by our mycological community. The site is a "work in progress" and will be revised and updated from time to time. I hope the site stimulates interest in the fungal flora of northeastern North America as well as reminding our community what a worthwhile amateur institution the Northeast Foray has become.

And, the news regarding our own recently revamped (twice) website: www.newyorkmyc.org. (First of all, please bookmark the site.)

Our new Webmaster, Arthur Barlow, is continuing and creating more interesting features for the website. In addition to the pages on walks, mycophagy, and a picture gallery, a members' section is in the works.

The website will also catalog the Central Park Project and provide space for more catalog-like survey results from other local areas. Much of what happens on the website will be in all our hands. 🍄

Wiki What? Wiki Who?

Among other inclusions, such as current and archived newsletters, a members' *WIKI* has been proposed that will enable us to update Emil Lang's *A Consumers Guide to Edible Mushrooms & How to Make Them More Edible (Project Edibility)* from the 1970s.

According to Wikipedia, "A wiki is a website that allows visitors to add, remove, and otherwise edit and change content, typically without the need for registration. It also allows for linking among any number of pages. This ease of interaction and operation makes a wiki an effective tool for mass collaborative authoring. The term wiki also can refer to the collaborative software itself (wiki engine) that facilitates the operation of such a site, or to certain specific wiki sites, including

the computer science site (the original wiki) WikiWikiWeb and online encyclopedias such as Wikipedia."

The Edibility Project wiki would enable NYMS members to upload information on edibility, including choice mushrooms versus merely edible ones. The wiki format will organize the information according to subject and will cross-reference terms so that, unlike a bulletin board, one will be able to easily hone in on the mushroom s/he is interested in.

The wiki project needs a central organizer or point person. If you are interested in spearheading or helping with this exciting new direction, please get in touch with Maria Reidelbach: maria@hoopla.org. 🍄



Overlooked New York is a wonderful series of paintings and essays by artist Zina Saunders. Overlooked New York's subjects interesting low-profile groups and clubs, the NYMS included. Above, our own Alice Barner inspects a shelf fungi in Central Park. Painting reproduced by permission of the artist. The series can be viewed at www.overlookednewyork.com.

Spring Came Early This Year

My Favorite Springtime Fungus

By Elinoar Shavit

A few days ago I was lying on an operating table in Michigan as a nice radiologist wrapped up my medical procedure. I certainly blame the level of valium in my blood for what happened next. The radiologist and I were at the “where and when” stage of a nice conversation to pass the time, when I asked him where he went to medical school. There was a long pause before he blurted out, “in Syria.” Apparently even under sedation, mushroom issues are foremost in my mind, because I almost sat up. “Wow!” I said, “Are you in the wrong place! You are missing the best Desert Truffle season ever in Syria right now, the market in Damascus must be overflowing with them!” He reminded me not to move, and then said, “Truffles??” “Kamah!” I said. “You mean ‘keme,’” he corrected me and added, “They are so good, but you no longer find them in large quantities at the Damascus market because they have become an important cash crop and are exported to Europe.”

“This is the best season I’ve ever seen,” I said, “I just returned from the Israeli Negev. Some of the truffles I collected were the size of oranges! They had a wonderful flavor, and I finally understood the thousands of years of desert-truffle lore.”

“But isn’t February too early for truffles?” He asked.

“Spring came early this year!” I told him, quoting my Bedouin guide.

Figuring out the fruiting season of desert truffles isn’t rocket science. They come out when the longer, sunny days of spring warm the sand and finally dry it out, usually from March to April (give or take two weeks for bad or favorable weather patterns). Perhaps it is to spite the weather that I jinx the growing patterns of the Israeli desert truffles. How else could you explain how every time I arrive in the Negev, the truffle season has either just ended, or is just about to start as soon as I leave? But desert truffles have been in my life for as long as I can remember. I have collected them, bought them in markets, prepared them in traditional and non-traditional ways, and most of all loved the excitement they cause when they appear in the spring, and the rich folklore associated with them. With the possible exception of their French and Italian cousins, I don’t know of any fungus, not even morels, that can generate such excitement when hunted. However, I could never buy into the claim that they are an exceptional edible. I found them to have a good texture, a mild smell, and a somewhat nutty and mild flavor (a little imagination goes a long way). In my experience they were easily overwhelmed by any additives, including the butter they should be sautéed in.

I have interviewed desert truffle enthusiasts from Morocco to Syria, and all were very clear about the reason they liked their sandy truffles so much—they loved their unique aroma and sublime flavor which “lingers in the mouth and keeps improving.” A chef in Tel Aviv once used my then 4-year-old daughter’s expression to describe what was so special about them. He said, “These truffles are so good, they have ‘the flavor of more!’” So the more I researched the use of desert truffles among the different cultures who covet them, the stronger I felt that maybe the problem was not in the truffles, rather that it was I who was doing something wrong. On the other hand, how complex could the process of brushing off sand, peeling, slicing, and then sautéing the sandy golf balls in butter be? Maybe the problem was that I loved the European truffles and was fond of the Israeli *Terfezia oligosperma* (the White Pine Truffle that has recently been entered into the distinguished Tuber family and is now



Photo credit: Shavits

Kingdom: Fungi

Division: Ascomycota

Subdivision: Pezizomycotina

Class: Pezizomycetes

Order: Pezizales

Family: Morchellaceae

Genus: Morchella



The Wild Epicure

By David Work [Reprint: Mid Hudson Mycological Association *Mycology-News*]

At the December 2nd get together, a number of folks asked about quiche. This piece is organized more in the manner in which I teach in the kitchen and not in the traditional recipe form. I hope it still works for you.

Quiche

Aahh, quiche, the egg pie... adored, much maligned, emasculated...

Quiche is one of those fantastic foods that is at once homey and familiar and exotic and decadent. It is the perfect vehicle for many of our favorite wild mushrooms and it is relatively easy to make. Before we begin, a few words about mushrooms and quiche.

Quiche is a food that has much of its identity wrapped up in the perfection of its texture, and thus any additions made to quiche must be made with texture in mind as well. Although I wouldn't want any of you to abstain from adding dried mushrooms to quiche, it is only with fresh or cooked frozen mushrooms, with a few exceptions, that perfection can be approached. Dried mushrooms frequently fall short, texture-wise, often producing stringy or leathery results. Exceptions to this might include morels, whose flavor is intensified in dehydration and whose texture is nearly untouched in the drying process if the stem is excluded.

Also keep in mind that the egg filling in a quiche is not scrambled eggs or a soufflé, but rather a savory custard, so low oven temperatures and non-vigorous mixing techniques are encouraged for a smooth rich texture.

Crust

Sometimes people get scared of pastry crust, so I am including here the simplest recipe I know, the 3-2-1 crust: *three parts pastry or all-purpose flour to two parts butter and one part ice water*. The difference between pastry flour and all-purpose flour is that AP flour has more of the proteins glutenin and gliadin, which, when combined in water and agitated, form long elastic strands known as gluten. This gluten production is highly desirable when creating thick, crusted, chewy breads, but is terrible when you are aiming for light flaky pastry. It is very important then, not to overwork pastry doughs. Blending the butter and flour and salt in a food processor is OK, but adding the water and forming the dough should be done by hand with as little stirring and kneading as possible – just enough to form a ball that will not fall apart. This is as much as I want to talk about crust, and from here on I will assume that you can look up a basic pastry recipe if you need further info. You'll want to blind bake your crust.

Now, on to making quiches!

So you have a blind-baked crust ready for filling. Next, prepare the mushrooms and whatever else you wish to put in the quiche. Not all of these things will have the same pre-cooking needs, so you'll need to prepare them separately or in tandem. For instance, mushrooms such as morels take some real cooking to be a safe edible. Most items added to the quiche will need some pre-cooking.

Quiche with Morels, Fiddleheads & Goat Cheese

Take a handful of dry morel tops (I reserve the stems for powder) and rehydrate them in warm water for at least ten minutes. Squeeze them out and cut them into rings or other small pieces. Sauté the mushrooms over low heat in a teaspoon of butter and a teaspoon of olive oil. The olive oil will help raise the smoke point of the butter. Allow the mushrooms to sweat and brown a little bit before adding a drizzle of vermouth or other dry wine and two (2) tablespoons of water. Raise the temp under the pan a bit so that the liquid simmers hard. Cover the pan for 2-3 minutes to assure that the mushrooms are fully cooked. Remove the cover and allow the liquid to evaporate away. Add a tablespoon of finely diced shallots and allow them to become translucent. Remove

Cont. p. 7



Houby Kvarteto
Fungus flash cards from Poland
Collection of Pam Kray

Joe Holdner's Broiled Trout with Morel Sauce

Though Morel season is almost upon us, this recipe seems to work just fine with other fresh mushrooms without the soaking. You can use it to dress up almost any broiled fish, whole or filleted, and it might even work with seitan (gluten).

1 lb. fish, butterflied or filleted

2 shallots chopped

½ cup milk

1 tsp flour

1 Tbs sherry

2 Tbs olive oil or butter

1/2 dozen morels, depending on how flush and generous you are.

1. Soak the morels in milk, mixing occasionally to get all the morels reconstituted

2. Strain the morel and milk mixture, saving the milk.

3. Sauté the shallots and mushrooms or morels in a minimal amount of oil or butter until all are soft—about 5 minutes.

4. In a small, heavy-bottomed sauce pan sauté the flour in 1 Tbs oil or butter over medium heat until thoroughly saturated. Whisk in the milk from the soaked mushrooms until smooth, add the morels and shallots, sherry, salt and pepper to taste.

5. Lightly grease a broiling pan and place the trout skin side down. Cook about 3/4 done—about 8 minutes.

6. Spoon the sauce over the fish and continue cooking until done.

To make a lighter version, you can eliminate the sauce, and just use the shallot/mushroom mixture on the fish.



Work, cont. from p.6

the pan from heat and drizzle with another few drops of wine, a sprinkle of salt and freshly ground pepper and some freshly chopped herbs (I like a blend of parsley and chervil or tarragon and chives) and allow to cool .

If fresh fiddleheads (immature shoots of the Ostrich Fern) are unavailable, pickled ones sometimes are available. The pickled ones can be rinsed to reduce the brine, or asparagus can be substituted. If they are fresh, blanch them for 2-3 minutes in salted boiling water and drain well before continuing.

Distribute the mushrooms evenly across the bottom of your pre-baked crust. Do the same to the fiddleheads and drop dollops of goat cheese here and there. I like to use a fresh Montrachet style cheese so as not to overpower the nuances of the morels. If you want to truly go overboard with the seasonality thing in the spring, find some Ramps (wild garlic leeks) and chop and sprinkle those around, too.

For the custard, whisk together eggs and heavy cream (or for the health conscious, milk or half & half) at a 3:1 to 4:1 ratio depending on how rich you like it. Add a pinch of salt and more herbs if you like. Pour the custard over the other ingredients to fill the crust almost to the top.

Place the quiche into a 325-350 degree oven and allow the custard to just set, that is, if you give it a little bump, the custard can jiggle stiffly but not wave or (God forbid) slosh. Remove from the oven and allow to finish cooking on the counter.

The other quiche I made for the Dec 2nd Feast can be made the same way only with black trumpets, ham and Gruyere. A nice addition to this could be spring onions or caramelized sweet onions. Bon Appetit! 🍄



*Morels,
Das Fleine Pilzbuch, Germany, 1912
Collection of Frank Spinelli*

Magnificent Chanterelles Again!

Another year, another weekend in the making in beautiful Vermont at the foot of the Green Mountains. The area has plenty of woodlands for us to explore on Saturday and Sunday. Most years we collect plenty of mushrooms (Chanterelles and other edibles) for Saturday night's dinner as well as mushrooms to take home on Sunday.

DATE: Friday night through Sunday, July 27-29, 2007

PLACE: Yet to be determined, either a large farm house in Winhall, 3.5 miles from Stratton, or The White Pine Lodge with one more apartment. The latter accommodation will slightly limit the number of participants. (So, reserve early.)

COST: Around \$120.00 per person including 2 nights and 6 meals (Friday evening picnic lunches, barbecue on Saturday evening, and breakfasts. To insure a place, a **deposit of \$30.00 per person will be needed before May 15, 2007**. Place will be reserved on a first-come-first-served basis. Make your check payable to The New York Mycological Society and mail it with your registration form (on p. 15) to Claudine Michaud, 50 Plaza Street, Apt. #1, Brooklyn, NY 11238.

MYCOLOGIST: Paul Sadowski will be our expert for mushrooms identification.

TRANSPORTATION: If you need transportation or you can provide a ride, let us know and we will try to match availability and needs.

QUESTIONS? Email: michaudhenri@aol.com. If you cannot email and need to reach Claudine by phone: either 718-622-5834 or 631-749-4398. But, **please** do not leave a message.

Ready for another exciting week of mushroom discovery? 🍄

Science News Online, week of March 3, 2007; Vol. 171, No. 9

Fungus Produces Cancer Drug

By Christen Brownlee

From San Francisco, at a meeting of the American Association for the Advancement of Science

Several varieties of fungi that attack hazelnuts produce high quantities of the widely used cancer drug paclitaxel, researchers report. Companies currently extract the powerful but expensive drug from the bark of yew trees.

Since the early 1990s, doctors have been using paclitaxel, sold under the brand name Taxol, to fight cancers of the lung, ovary, and breast, and some other tissues. However, since paclitaxel comes from slow-growing trees, the drug is in limited supply.

In a chance discovery, Angela Hoffman of the University of Portland in Oregon and her colleagues found that several types of fungi that plague hazelnuts contain tiny amounts of the drug. While growing the fungus in a nutrient-rich broth, however, the researchers observed that the fungi produce an increasing amount of paclitaxel as sugar in the broth becomes depleted.

From the lab studies, Hoffman estimates that fungi growing in 10 liters of broth for 3 weeks could provide enough paclitaxel to treat one person's cancer. Extracting a comparable amount from yews could take many trees and years of growing time, she says.

The researchers next plan to look for the paclitaxel-producing gene in the fungi, with the aim of ramping up production of the drug by fungi or other organisms. 🍄



*Chanterelles,
Das Fleine Pilzbuch, Germany, 1912
Collection of Frank Spinelli*



Better than Rachel Ray and Emeril Combined.

And who could top them?

By Melissa Miller

On March 8th at the Natural Gourmet Institute, Terry-Anya Hayes brought the world of mushrooms as medicine and as great-tasting food to a group of hungry attendees. With the help of a split video screen keeping track of the range and the prep area in close-up and a wireless microphone, we got to watch the preparation, hear about mushrooms, and smell and taste some great cooking.

Starting with a reishi-turkey tail-ginger energy drink, we heard about the multiple benefits of these fungi—antitumor, immune and glucose modulators, energy boosting, blood pressure lowering, antiviral and antibacterial, and more. (The drink was a little bitter but no red reishi (*Ganoderma tsugae*) were available during any of this past season, according to Terry. She said that *G. tsugae* would not have been bitter.)

Moving on to the ever-popular oyster mushroom, we found that this also was much more than just tasty. In a soup concocted with homemade nut milk, tomatoes, and crispy shallots, oysters played a subdued but delectable role. Finding out that these mushrooms also were both tumor- and cholesterol-inhibiting just added to the good flavor.

Next, with the help of several very capable NG Institute assistants and some in-class participation, other dishes got underway: an apple crisp with tree ears (*Auricularia auricula*) stewed in a delicious mixture of maple syrup and spices; a wasabi (tofu) cream-sauced portobello (which also has positive medicinal actions—who knew?); a slaw with sautéed enokis (*Flammulina velutipes*), also of antitumor, immune-stimulating, and antibacterial/antiviral properties; a ragout of maitake (*Grifola frondosa*—the fungus that convinced her doubting daughter of her mom’s good sense and good taste—also packed with liver protecting, T-cell stimulating powers); porcini (yes, antitumor) with polenta; and a shiitake (we all know how good these are for you) and lacinata kale combo—yummy.

Although hearing, seeing and smelling were wonderful, the tasting surpassed all else.

We learned about the bad as well: do not eat enokis raw as they are cardiotoxic in that form, nor raw *Agaricus bisporus*, which, if not cooked, interferes with protein absorption. We also learned about ethical sources for obtaining fungi and herbs.

Combined with superb food, this energetic, responsive, and daring presentation (it seems quite brave to be chopping away with a sharp knife while simultaneously trying to hear and answer questions from the crowd), made for a great evening event. 🍄

Summer Foray Season Heats Up

NEMF Foray Beckons with NAMA Foray and Telluride Close on Its Heels

Now that the season is beginning, it is time to make some plans for attending some of the forays and weekends that promise experience, education and quality time out of the city. The Chanterelle Weekend and Catskill Weekend are New York Mycological Society events (see facing page).

The NEMF and NAMA forays are one weekend apart this year, and both events are on the East Coast. For a hat trick of mushroom forays and festivals, the very next weekend after NAMA has the Telluride Mushroom Festival in Colorado.

First, the 13th Annual Samuel Ristich Foray of the NEMF will take place August 9-12, at the University of Maine, Orono campus. For those of you who do not know, NEMF, the Northeast Mycological Federation, is an organization of mushroom clubs in the Northeastern United States and Canada, and NYMS is one of its members. The 2002

Cont. p. 13

EDITOR'S NOTE

I have noticed and several people have suggested reprint articles and items regarding mushrooms—fungi are enjoying some increasing attention in scientific and product-related circles. Besides these reprint articles on cancer-fighting compounds in hazelnut fungi and on Paul Stamets' patent on a fungus-based pesticide, Andrew Weill has put out some cosmetic products with names like "mega-mushroom serum." If you are interested in reviewing these for the newsletter, please contact me. PK

From the desk of Gary Lincoff—

Chemical & Engineering News, Dec. 4, 2006; Vol. 84, No. 49 pp. 82-83

Fungi To The Rescue

Biopesticide derived from mold has promise as a greener method for eradicating insect pests

By Stephen K. Ritter

When Paul E. Stamets, the proprietor of gourmet and medicinal mushroom provider Fungi Perfecti, Olympia, Wash., bought an old farmhouse in the mid-1980s, he quickly discovered a homeowner's nightmare: A wood-digesting fungus known as an artist's conk had invaded the home and was destroying the floor. The fungus and the softened wood are favorite foods of some insect pests, and Stamets soon found his slumping house under attack by carpenter ants that left tiny piles of sawdust all about.

But unlike the average homeowner, Stamets is a fungus expert. He took matters into his own hands. The end result was his discovery of a now-patented pesticide technology that takes advantage of chemical cues produced during one stage of the life cycle of the green mold fungus *Metarhizium anisopliae* to attract carpenter ants and other insect pests and infect them with the fungus, which later kills them. An additional benefit is that chemical cues produced by spores in a subsequent stage of the fungal life cycle help shoo ants and other insect pests away indefinitely.

The technology is being licensed through Mycopicide LLC, a company Stamets created. It could have significant economic impact as an alternative to traditional chemical pesticides, while reducing harm to human health and the environment, he believes. For instance, only a teaspoonful of the fungus grown on a substrate such as rice and costing a few cents to produce is sufficient to treat a single home for years, Stamets says. In addition, *M. anisopliae* and the active compounds it generates don't appear to be harmful to humans, other mammals, fish, useful insects such as honeybees, or plants.

Stamets had heard about *M. anisopliae* and other mold fungi, called entomopathogenic fungi, that kill insects and use their carcasses to disseminate spores. The pesticide industry has been exploring the use of spores isolated from dead insects as natural insecticides for some time, but with limited success, he notes. One problem is that insects are sensitive to the spores and avoid them, and soldier insects guarding nests sense and intercept most spore-contaminated foragers to prevent them from entering and infecting the colony.

In search of a possible way to save his home, Stamets ordered a culture of *M. anisopliae* and began to experiment. Strains of the fungus produce chemical attractants in the mycelial state, the stage of the life cycle when a fuzzy mat of mycelium, making the mycelium an effective biopesticide.

The spores attach to insects and germinate, using enzymes known as chitinases to bore through the exoskeleton. Once inside the insect, the mycelium grows and produces a host of chemicals. These include destruxins, a class of hexadepsipeptides that compromise calcium ion channel function and are immunosuppressive, and cytochalasins, a class of compounds that affect cell mitosis. Other compounds, still being investigated, affect protozoans living in the insects' gut that are necessary to digest cellulose. In the end, the weakened insects die as the mycelium takes over.

The dead insects look mummified with the fuzzy mycelium, and they become a launching platform for more fungal spores. In the sexual form of the fungus, a tiny club-shaped *Cordyceps* mushroom grows from the insect carcass. The dead insects left in a decimated colony ward off subsequent insect invasions because the carcasses remain moldy with the repellent spores.

Stamets reasoned that if termites and ants could be attracted to the mycelium well before spores were produced, they would eat it and carry fragments of it back to their nests without being stopped by the guards. When the spores were eventually produced, they could fatally infect the colony.

He isolated a small amount of the mycelium from the culture he ordered. Through

several subsequent generations of culturing just the mycelium, he was able to create strains of *M. anisopliae* that delay spore production for several weeks. He then grew some of the modified mycelium on rice and tested it by placing a small amount of the rice on a foraging path of the resident carpenter ants in his house.

“That night, about four hours later, my daughter spotted a swarm of ants on the mycelium-covered rice,” Stamets recalls. “The ants became distribution vectors for the mycelium and promptly infected their nest. A week or two later, my old decomposing farmhouse was rid of carpenter ants.” The house eventually had to be destroyed because of the previous damage, but Stamets saw no signs of carpenter ants or termites for four years after his pilot test.

Stamets initiated a series of research trials carried out by entomologists Roger E. Gold and Kimberly M. Engler of Texas A&M University (*Sociobiology* 2004, 44, 211). Lab and field experiments found that the *M. anisopliae* mycelium was a preferred food for many insects and more effective against Formosan termites, eastern subterranean termites, and fire ants than a common commercial chemical pesticide. The research also showed that highly diluted water-ethanol extracts of the mycelium can be used to attract insect pests.

The results of the Texas A&M research helped Stamets to patent his discovery. The current patents broadly cover using the mycelium of all species of *Metarhizium* and *Beauveria* fungi directly or a mycelium extract as an attractant for all social insects—a significant milestone because social insects (insects with a queen) encompass more than 200,000 species.

The technology is being promoted by technology brokerage firm Yet2.com, Needham, Mass., which is working with a half-dozen interested companies so far in the U.S. and other countries to evaluate potential products. Some of the early *M. anisopliae* products developed by others have already met with Environmental Protection Agency approval for pesticide uses, so products derived from Stamets’ invention are expected to gain quick approval, according to Phillip B. Stern, chief executive officer of Yet2.com.

The *M. anisopliae* mycelium technology is “a platform for multiple applications,” Stern says. One type of product would be the active mycelium itself, which could attract and kill insects. Another type of product would be the isolated “chemical actives” that could be extracted from growing mycelium or synthesized and then used to attract insects to a bait station to feed. A second component would be used to kill the insects.

The suite of chemical attractants produced by the mycelium has not yet been pinpointed, Stern adds. Research currently being carried out in conjunction with the Department of Agriculture’s Agricultural Research Service is “showing strong promise, but it’s in the early stages,” he says.

Stamets’ mycopesticide discovery could become an integral part of the lucrative pesticide market, which is estimated to be nearly \$9 billion per year in the U.S., with biopesticides representing a 5% market share, Stern notes. The biopesticides sector is growing by approximately 15% per year, he says.

“Many insecticides and biocontrol agents are repellent to insects, and therefore the control is poor because the insects don’t come in contact with the product,” comments entomologist Pamela G. Marrone, who has pioneered commercial agricultural biofungicides and is CEO of Marrone Organic Innovations, Davis, Calif. “The significance of Stamets’ work is that it can improve the efficiency and efficacy of fungal-based biopesticides and could improve chemical-biopesticide combinations.” But many more field trials will be necessary to fully prove the technology for commercial use, she says.

There currently aren’t any commercial biopesticides for termites, Marrone notes. The main technology uses chemical bait systems to attract termites and an insect growth regulator to kill them. “Although insect growth regulators are rather benign insecticides, many homeowners I talk to would like a nonchemical solution to termite control,” Marrone adds. She thinks Stamets’ mycopesticide could do the trick. 🍄



From: *Le Livre de Champignons*, Roland Sabatier, Gallimard Press, 1977

Shavits, cont. from p.5

called *Tuber oligospermum*). In terms of their flavor, I have always thought desert truffles to be their poor relative. I even doubted the taste-buds of the Roman Caesars and the ancient Pharaohs who killed for them. Until 3 weeks ago.

Maybe I should explain that I am not going to talk about the different species of *Terfezia* and *Tirmania* here. A few months ago, Tom Volk asked me to write the 10th anniversary Fungus of the Month article on this springtime group of underground mycorrhizal fungi, mostly in the *Terfezia* and *Tirmania* genera, which grow in areas of the Mediterranean and the Arabian Peninsula, and are collectively called Desert Truffles. They are interesting from a mycological aspect, have an unusually rich history that dates back thousands of years—the Prophet Muhammad called them the biblical manna and acknowledged their medicinal properties—but you can read all about this and other juicy mycological, medicinal, ethnological, and gastronomical stories about Desert Truffles (and enjoy the pictures) by visiting the net at Tom Volk's Fungus of the Month site and choosing January 2007, or directly at http://botit.botany.wisc.edu/toms_fungi/jan2007.html

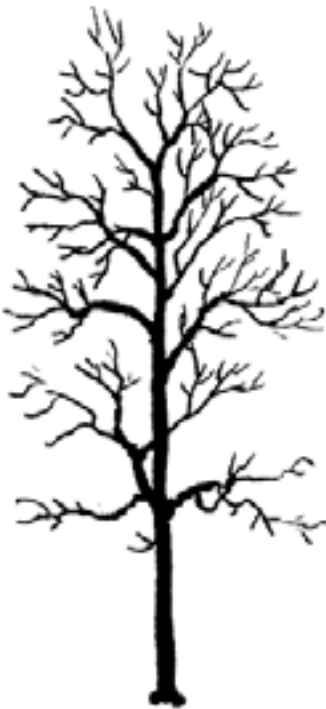
What you will not find there is my own enthusiastic culinary eye-witness account of their legendary flavor, because I discovered it only 3 weeks ago.

Last spring, obviously too early for truffles, Eyal and I visited a friend in Beer Sheba whose research involved the medicinal uses of plants among the Bedouins of the Negev and Jordan. He told us about the simple ways in which the Bedouins prepare the truffles, how they preserve them, and why samaneh (clarified fermented butter, much like ghee) brightens their flavor. It was all very fascinating. I then mentioned the various mushrooms the Bedouins of northern Israel use for food and medicine, like *Volvariella speciosa*, *Tricholoma terreum*, *Lepista nuda*, and *Suillus granulatus*. These can sometimes be found in the planted woods around Beer Sheba, and I wanted to know if the Bedouins of southern Israel used them too. Our friend looked amused when he said to us, "Those slippery things? We use them only if there are no Kamah (truffles)!" I asked him what he thought of the flavor of desert truffles. He lifted his coffee cup up, lowered his voice and said, "They are wonderrrffuuulllll..." rolling the word in his mouth. So I confessed that I didn't think they were so fantastic. He just looked at me. I immediately added that their texture, however, was quite nice. "What texture?" he said, "You had texture? You didn't let them ripen, they never developed their flavor!"

What followed was a careful explanation of the dos and don'ts of truffle ripening and cooking. Apparently, I was doing it wrong all those years, starting with placing the sandy balls in the refrigerator immediately after collecting or purchasing them. Israel can be quite hot in spring, and I was afraid that the delicate truffles would spoil. The details can be found in January's Fungus of the Month, but that conversation made me even more eager to get my hands on some truffles, and give the Bedouin ripening method a try.

Spring had certainly arrived in Israel when I visited there in mid February. There were a few short periods of rain, but the temperature was much higher than usual. Woods and fields were covered in a thick carpet of colorful wild flowers. Particularly striking were the blood-red anemones that dwarfed the cultivated varieties, the pink cyclamens, and the deep yellow daisies and mustard blossoms. Always a mushroomer, my first thought was, "spring came early this year!" So one sunny day, I walked down to the fresh produce market in old Tel Aviv. It is one of the most beautiful and lively markets I've been to. There were small baskets full of ripe, large sized passion fruits. They looked like sandless truffles, but there are no sandless truffles, of course. So when I noticed one stand with three smaller bags of brownish round objects, varied in size and covered in fine desert sand, I just stood there. They were beautiful—round and perfect, about the size of golf balls, some as large as oranges. "It can't possibly be your season," I muttered. My mother once told me that one way to lure someone is to ignore them, "But it only works if you truly mean it," she said. My mother was right.

So I carefully brought them home. Following the instructions of my Bedouin friend,



*These are trees that are often found in the vicinity of morels. Can you name them?
Answers p. 14.*

I wrapped each one of my precious truffles in newspaper. I did not put them in the refrigerator so as not to “kill their flavor”. Instead, I placed the wrapped truffles in a fruit bowl under the dining-room table, out of the light and the heat. In the next few days I picked through them daily to remove the few that “melted away” or “bred worms”, like in the biblical story of the manna. Five days later, when a very unmistakable and wonderful fragrance filled the dining-room, I carefully brushed the delicate truffles in a bowl of lukewarm water to remove the outer sand, and peeled them. Some were riper than others, their flesh spotted with greenish-black patches (one way to separate between species of *Tirmania* and *Terfezia*), yet others remained sand colored. I washed the peeled truffles and sliced them, just like the man in the biblical story about the prophet Elisha had done. Then I warmed some of the Bedouin samaneh that I had been keeping in the refrigerator, hoping for just such an occasion, and sautéed the truffle slices until they turned golden. A touch of salt and pepper intensified their wonderful fragrance. My next door neighbor ‘followed her nose’ into our kitchen, and took a fork. She wanted to know what delicacy I was preparing. The three of us stood around the stove in complete silence, and slowly ate the entire batch. No one said anything. Eyal recovered first, instinctively turning around to check if any truffles remained in the fruit-bowl. “They are wonderrrrffuulll...,” he said.

Spring came early this year. 🍄



Foray Season, cont. from p. 9

NEMF Foray, co-hosted by NYMS, was one of the most successful forays in the history of NEMF, with Dennis Aita, Gary Lincoff, Gene Yetter, Paul Sadowski, and Ursula Hoffmann among its prime movers and shakers. The Maine Mycological Association is hosting this year’s event.

The area around Orono features “spruce, pine and deciduous forests with streams, rivers and bogs” in which to hunt mushrooms. Other recreational activities are also available in the region.

Information on the accommodations and registration deadlines is on the registration form (see insert). The form is online at: <http://www.nemf.org/> >Menu >2007.

The NAMA (North American Mycological Association) 2007 Orson Miller Memorial Foray at Pipestem State Park, West Virginia will take place August 16 to 19. According to the NAMA website (<http://www.namyc.org/>), Hope Miller has been invited to attend, and visitors from Scandinavia may also be in attendance. Bill Roody, the guru on West Virginia fungi and the author of *West Virginia Fungi and the Central Appalachians*, has agreed to serve as Chief Mycologist.

According to the website, “there are no cottages available during the foray, should you and your party desire to stay afterward...there are 10 cottages, with either 2 or 3 bedrooms available.” Campground reservations are being accepted now, call Pipestem: (304) 466-1800. The NAMA site anticipates the foray to be fully subscribed and encourages potential attendees to look into arrangements sooner rather than later. NYMS members traveling to both the NEMF and NAMA forays will likely want to coordinate rides and accommodations in both places. Detailed registration materials for the NAMA foray will be posted soon, according to the NAMA site.

The 27th Telluride Mushroom Festival will be from August 22 to 26, in Telluride, Colorado. At this festival, lectures by Gary Lincoff, Paul Stamets, and Andrew Weill have illuminated cutting-edge research on medicinal properties and ecological importance of mushrooms. The forays, identifications, tastings and cultural and artistic presentations make for a full four-plus days in the spectacular mountain setting in southwestern Colorado. The town is at 9,000 feet, while the area’s peaks are up to 14,000 feet. Information on the Telluride Mushroom Festival can be found at: <http://www.mushroomfestival.com/index.asp>.

A full month of August indeed!



Reidelbach, cont. from p.2

catch. They wouldn't even want to be seen with me. I almost didn't show up.

I was hooking up with the Catskill Weekend group at the Frost Valley Y as a day tripper, and I wandered into the dining room as people were finishing breakfast and preparing lunch to take along. As luck had it, the first person I ran into was the irrepressible Laura Biscotto. She was tossing filled baggies into a box. And she was dressed in shorts, a t-shirt and sneakers, like me. I offered to help, glancing at the contents of the baggies. "What's in here?" I asked, eyeing the white, puffy mass through the plastic. "I think they're peanut butter and jelly ravioli," she replied, deadpan. It was the funniest thing in the world at that moment. I realized that, whattayouknow, with a sense of humor like that, maybe they would be kind enough to let me tag along.

Since then, I've found out that members of the Society are some of the friendliest, most helpful and generous people I've met in New York City—kind and patient with neophytes, taking time to explain, for the umpteenth time, the ways to distinguish a cortinarius from a blewit. I still have trouble with those two, but now *I* can throw around some proper nomenclature, and can distinguish and name more mushrooms than I once knew existed.

Given my initial trepidation, imagine my surprise when the Nominating Committee approached me in January to ask if I would consider running for president. After being convinced by Paul Sadowski that they were, in fact, serious, and not coming off a Big Laughing Gym bender, I thought about it. "I'm going to have to form an exploratory committee," I mumbled, trying to buy time. "This *is* the exploratory committee," Paul rejoined.

There being no other candidates, here I am, your new president. I am honored to serve this amazing and fantastic group. Here I have met many amazing people from all walks of life, some of whom I am delighted to say have become friends. And the activities of the NYMS are many and wonderfully varied. The weekly seasonal walks are great introductions to the many habitats that surround the city. The winter lecture series has given us incredible opportunities to learn from some of the country's foremost experts. The holiday banquet, often with homemade appetizers, is a long-anticipated winter bacchanal.

Because the responsibility for organizing these activities is shared by a seasoned group the club will continue to be the well-run, yet eccentric, nonprofit organization it has been for the past forty-odd years. We owe many thanks to the ongoing efforts and dedication of club officers Paul Sadowski, Secretary, organizer of the autumn Catskills weekend, and the Monday night study group, and Dennis Aita, Vice-President, Walks Coordinator and Banquet Impresario along with Claudine Michaud, who also organizes the Chanterelle Weekend. We are incredibly fortunate that Gary Lincoff, author of *The Audubon Guide to North American Mushrooms* and many other publications, has mentored our groups for decades; he also organizes the lecture series, leads summer walks, and shares his witty sense of humor with all. Maggie Vall, outgoing President, and Alice Barner, outgoing Treasurer, have kept our group in great shape for many years. Pam Kray, editor of this newsletter, has done a terrific job for the last year, delivering fascinating articles in a timely fashion, many contributed by our members. I am enjoying working with Charles Luce, our new Treasurer. Add to that the efforts of many of volunteer walk-leaders and helpers and it means we've got one of the best mycological clubs in the country.

Who needs pith helmets? 🍄

Quiz answers:
apple, elm, tulip poplar.

Chemical Enlightenment

By Bruce Bower

The comfortably furnished room in a corner of the Johns Hopkins University School of Medicine in Baltimore seems an unlikely setting for spiritual transcendence. Yet one after another, volunteers last year entered the living room-like space, reclined on the couch, swallowed a pill, and opened themselves to a profound mystical journey lasting several hours. For many of them, the mundane certainty of being a skin-bounded person with an individual existence melted away. In its place arose a sense of merging with an ultimate reality where all things exist in a sacred, unified realm. Participants felt intense joy, peacefulness, and love during these experiences. At times, though, some became fearful, dreading unseen dangers. Mystical experiences triggered by the drug psilocybin yield lasting, positive changes in people's lives, a new study finds.

The pills that enabled these mystical excursions contained psilocybin, the active ingredient in so-called magic mushrooms that some societies have used for centuries in religious ceremonies. Psilocybin boosts transmission of the brain chemical serotonin, much as LSD and some other hallucinogenic drugs do.

Johns Hopkins psychopharmacologist Roland R. Griffiths and his colleagues have taken psilocybin out of its traditional context and far from the black-light milieu of its hippie-era heyday. Griffiths' team is investigating the drug's reputed mind-expanding effects in a rigorous, scientific way with ordinary people.

In the group's recent test, psilocybin frequently sparked temporary mystical makeovers in volunteers who didn't know what kind of pill they were taking. What's more, some of these participants reported long-lasting positive effects of their experiences.

The remainder of this article can be read at <http://www.sciencenews.org/articles/20060930/bob8.asp>.



MEMBERSHIP

Individual—20.00 _____
Family—30.00 _____
NAMA—32.00 _____

Through the NYMS members can optionally also get a North American Mushroom Association membership at a discount. Make your check(s) payable to NYMS and to NAMA separately and mail with this form to:

Charles Luce, Treasurer
New York Mycological Society
518 Gregory Ave. C312
Weehawken, NJ 07086

Name(s) _____
Address _____
City, State, Zip _____
Phone _____ Email _____

Chanterelle Weekend

July 27-29, 2007
30.00 deposit X number of guests _____ = _____
____ need ride ____ have car space
Registrants names:

Make your check payable to NYMS and mail it with this form to:

Claudine Michaud
50 Plaza Street, Apt. 1B
Brooklyn, NY 11238.

Release

I hereby release the New York Mycological Society, any officer or member thereof, from any legal responsibility for injuries or accidents incurred during or as result of any mushroom identification, field trip, excursion, meeting, or dining, sponsored by the Society.

Your signature(s): _____ Date: _____

Desert truffles, photo by Shavits, see p. 5.



Paul Sadowski
205 E. 94 St., #9
New York, NY 10128-3780