LONG ISLAND MYCOLOGICAL CLUB

http://limyco.org

L.I. SPOREPRINT

VOLUME 17, NUMBER 2, SUMMER, 2009

FINDINGS AFIELD

Miniatures can be fascinating, both in art and in nature, their petite aspect somehow enhancing their attractiveness and their mystery. Some of our foragers seem to have a knack for finding the smallest fungi, and the one Roger Eklund brought to my attention during our Muttontown foray bordered on the microscopic, with a cap only 3 mm broad. Even among its own kind, it was definitely a runt, with others in this species usually varying from 5 to 15 mm (1.5 cm.). A hand lens was absolutely required.

Phaeomarasmius erinaceus

What it revealed can be nicely seen in the accompanying photograph. A densely scaly cap colored a deep and attractive reddish-brown to umber, the stipe darker brown, similarly roughened with minute scales and measuring about ½ mm in diameter.

(Continued on page 3)

THE MUSHROOMERS: WHO ARE WE?

Those of us who attend regional or national forays might believe we have some idea of the people who comprise the membership of mushroom clubs in the United States, but our hard facts are few and murky. To address this question, the first National Survey of Mushroom Club Members was conducted and prepared by Robert D. Bixler, Associate Professor Clemson University ,SC, who graciously has granted us permission to reprint his data and charts. What follows below is an edited selection from the final report, mostly quoted directly from the original.

Between November 2007 and April of 2008 34 clubs agreed to participate. 1,141 completed questionnaires were received of which 310 were paper surveys.

Demographics: The sample was 57 percent female, 13.6 percent of the sample had a household income under $30,000. For setting of residence, 31 percent lived in rural or country areas, 37.9 percent reported living in a suburban area, and 31.1 percent lived in a city area. About 15 percent of the sample had children under the age of 13 living at home. Seventy-five percent of the sample had two or fewer people living in their household.

Age &Experience: Club members were asked how old they were when they started collecting. Answers ranged from two to 75 with a mean age of 35.

Number of years of involvement in mushroom collecting: Answers ranged from 0 to 85 years with a mean of 18 years.

Number of years of membership in mushroom clubs: Answers ranged from 0 to 55 years. The mean number of years was 8.7. Twenty-five percent of the sample had been involved for four years or less. With the upper quartile (25 percent of participants with the greatest number of years of experience) being active from 30 to 85 years. The average number of years was 19.7.

Number of organized mushroom walks: Club members were asked how many organized mushroom walks they had attended in the last 12 months. Forty percent reported no participation. 17.1

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PRESIDENT'S MESSAGE

Well, no more whining about the lack of rain...so now can I complain about too much? Never will happen. (Maybe now we are more apt to cancel forays due to too much rain.)

Starting at the beginning of June, mushrooms started to pop up. Interestingly, not all areas started to produce at the same time. Many, many Wine Caps were found in Miller Place on chips and are still going strong. A few people found them elsewhere but some usual places had none. The same may be said of Black Trumpets, Chicken of the Woods, and others. Maybe after the present rain all areas will have abundant finds.

One thing that is happening is that there are more varieties showing up this year that are new for Long Island. Some are mentioned in this publication.

You will also find a recipe in this issue for Mushroom Strata that you may enjoy. Be warned that it is quite rich. I encourage those of you who cook to send in a recipe of your own to share. Sharing is what our club is about and I am sure there are a lot of good cooks among you.

Anyone who was considering attending NEMF at Cape Cod should get their name on the list, as they are considering increasing the registration beyond 200.

Meanwhile, I hope you are all out looking for new things and that more will attend the next forays.

See you in the woods!

EDITOR'S NOTE

The "locavore" movement, emphasizes consumption of locally grown and produced products, in part as a protest against high prices, and partly as a sustainability inspired effort to reduce greenhouse gases. This has led to a resurgence of farmer's markets and Community Supported Agriculture groups, which are active on Long Island. In some areas, it has led to the rediscovery of local wild food sources, including mushrooms.

For the most part, this is entirely a privately led movement, with such organizations as the Worldwatch Institute in the forefront. Government has played little part in encouraging this approach, and insofar as it subsidizes agribusiness has in effect undermined it.

If you think about it, mushroomers are the ultimate locavores, consuming wild food that neither increases the carbon dioxide footprint nor utilizes depleted resources, with the rare exception of those instances when we travel many miles to collect a favorite species or attend a distant foray. But in many areas, mushroom picking is officially discouraged and subject to sanction, a policy which is both wrong-headed and contrary to government's stated goals. Astonishingly, this is the case even when use of public resources, such as state parks, is an encouraged goal.

As long as there is no organized effort on the part of mushroom clubs to influence this policy, we can only hope that increased environmental awareness will eventually change official thinking.

MATERIAL FOR THE AUTUMN, 2009 EDITION SHOULD REACH THE EDITOR BY AUGUST 30TH

(Submissions can be submitted by email in any format or may be typed.)

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Mushroom usage around the World

Boletus edulis commercially (penny bun mushroom, cep, cepe de Bordeaux, porcini, Steinpilz) is a complex of at least five species (or sub-species) of mycorrhizal fungi which cannot be commercially cultivated. In 1998 total annual consumption was estimated as between 20,000 and 100,000 tons. Chanterelles, whose consumption is estimated at 200,000 tons, are therefore the most popular wild mushroom worldwide. However, *B. edulis* is not esteemed as a food in Asia, and is exported. But in some Chinese provinces it is used in traditional Chinese medicine and is reputed to stimulate blood circulation and to relax muscles and joints.

Another popular wild mushroom is the Matsutake complex (incl. the American *Tricholoma magnivelere*) which is revered in Japan, where 3000 tons is consumed annually, most of it imported. This mycorrhizal species complex has also never been successfully cultivated or introduced, although research continues in Japan. Wholesale prices in Japan (as of 1997) varied from $27 to $60 per kilogram. In some years (1992) over a million pounds can be harvested along the North American west coast, most of which is exported to Japan. While we would consider it odd, in Nagano, Japan, A. muscaria is considered a delicious food. Writing in the special mushroom issue of Economic Botany, (Oct. 2008) William Rubel and David Arora accept parboiling as a safe method for detoxifying it for the table. It seems that cultural elements can affect the determination of edibility of mushrooms. To give another example, wild mushrooms are revered on the Russian side of the Bering strait and feared and avoided in Alaska.

Attitudes toward mushrooms can cause suspicion between groups. The Bisa people of central Africa according to legend, split into different groups, one called the Mushroom clan, because some of them refused to share edible mushrooms with the others. Some of us may find this completely understandable.

Mushroom usage occurs thru south-central Africa, where termite mound mushrooms are prized in nearly all countries. *Termitomyces titanicus* occurs here and is possibly the largest edible mushroom in the world with a cap diameter that can exceed three feet. Desert (Kalahari) truffles are also widely appreciated. The Aborigines of Australia collect seven species of truffle, which are either eaten raw or roasted in ashes.

But in some parts of West Africa knowledge of mushrooms is declining among the younger gen-

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FINDINGS AFIELD

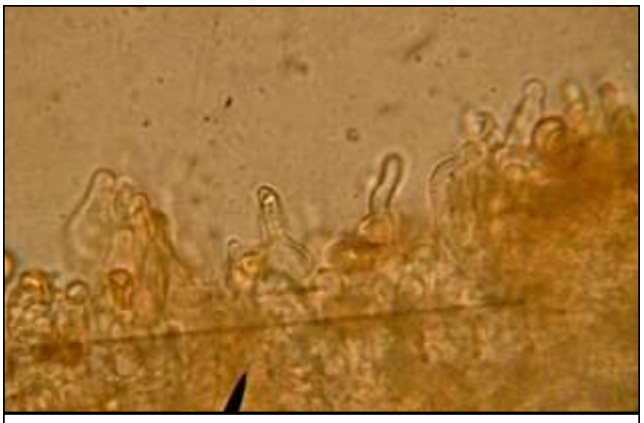
(Continued from page 1)

Although not visible in the picture, the stipe curved abruptly at its attachment to the cap, a common feature of this species. The gills were sub-distant, adnate, and colored like the cap.

Growth was on a large beech log which also hosted several other species, including the *Tremella mesenterica* which can be seen below it. Another attractive species cohabiting here was *Resupinatus applicatus,* the Black Jelly Oyster, which we have not collected for some years. (See photo, P.7)

A sporeprint was not attempted, due to its tiny size, but microscopically the spores were of a pale brown color, which is usually indicative of a deeper brown en masse. (Guide books indicate that the spore print color is cinnamon to ochraceous.) They were ovate to sub-rhomboid in shape, measuring 8-12 x 6-8 µm, some collapsed in H_2O mount. There were no cystidea on the sides of the gills, but numerous on the gill edge (cheilocystidea), mostly gourd shaped, with a curved neck (see photo) but varied in shape, a few branched.

Phaeomarasmius erinaceus is not usually collected in the U.S. and makes no appearance on many master checklists, such as the NEMF database, the NY Botanical Garden collection, etc., and is also absent from the standard guidebooks, although most describe a similar species *P. erinaceelus,* and apparently the two species are sometimes confused, although the latter has a much smaller spore. It is said to be widespread, although infrequent or rare, in the British Isles, and usually is listed in their guide books. A similar species, *P. borealis*, first described in 1991 from Northern Europe, may be found on the Quebec website (mycoquebec.org).



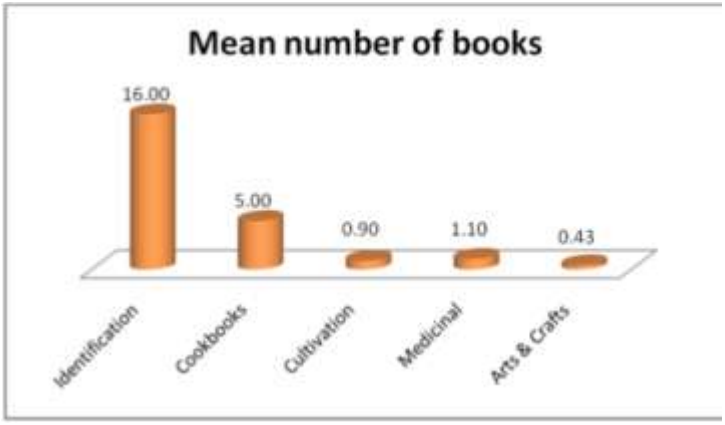
Cheilocystidea, *Phaeomarasmius erinaceus*

We have not collected this species before; it will now be added to our LIMC checklist.

Mushroomers: Who are we? *(Cont'd from page 1)*

percent reported going on one walk and 11.1 percent reported going on two walks. (At a rough count, non-participation in LIMC walks is about 35%.)

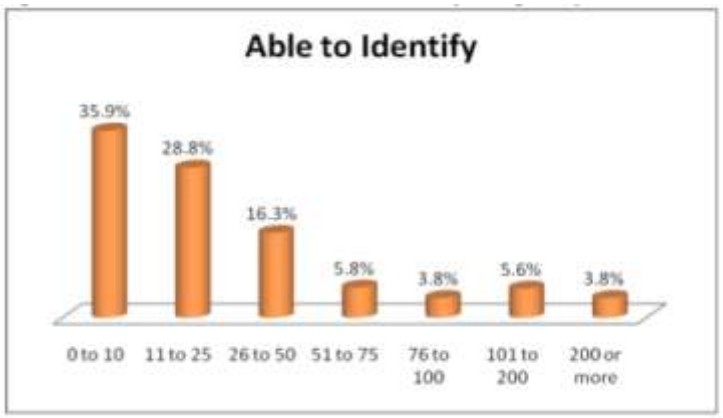
Ownership of books: Club members were asked to report how many books they owned in five different



categories. See chart below.

Ownership of a microscope for identification: 19.6 percent of club members reported owning a microscope.

Number of species able to identify: Club members were asked (by range categories) the number of species they could identify without a field guide. Data



presented below..

Collecting & Travel: 71 percent reported traveling over 50 miles to collect mushrooms, and 44.3 reported traveling out of state.

Collected mushrooms on public lands: 90.9 percent of respondents had collected mushrooms on public lands within the last two years.

Number of species eaten: Members were asked how many species they had eaten over a 12 month period. Answers ranged from 0 to 200 with a mean of 8.2 species.

Travelled internationally to collect mushrooms: 13.7 percent of respondents reported travelling

Planned a vacation around mushroom collecting. Thirty percent of respondents reported planning a vacation around mushroom collecting.

Time of Collection: Members collected in every month of the year, (survey included southern states) with February having the smallest percentage (19%); May and September had the greatest percentage, with 52% and 62% respectively.

Changes in Behavior: Cooking gourmet meals: 66% reported an increase and 30% no change. 57% reported an increase in concern for public lands

Spending category	Mean Spending in US dollars (2007)[1]
Books	71.42
Baskets, knifes, eye loupe, wax paper, other collecting equipment	29.32
Microscope	7.88
Chemicals for testing	1.93
Foray registration	62.06
Travel directly related to mushroom collecting (gas, food, lodging)	266.58
Club memberships	30.69
Subscriptions to magazines or web pages	41.51
Medical costs due to mushroom poisoning	5.45
Purchases of clothing, art, house ware with mushroom theme	39.22
Other	193.50

Spending on mushroom related activities: Club members were asked to report how much they had spent on mushroom related activities in the last 12 months. Ten categories were provided with an option to write in other expenses in an eleventh category. Results are reported as mean spending per category. Average expenditure over the period of a 12 month period was $750 . See above.

Income: 10.9 percent reported having received at least a small amount of income from wild mushroom activities.

Constraints to participation in mushroom activities: Although few or minor constraints were reported from such factors as "not being able to identify most mushrooms that I find", about 34% reported some frustration with the lack of common names.

Gleanings

■ JUST CALL ME HONEY: The Honey Mushroom known as *Armillaria ostoyae* must now be addressed by a different, older name that has historical precedence. The name *A. ostoyae* was originated by Romagnesi in 1970, but C.H. Peck, the NYS Botanist, described this species much earlier, in 1900, under the name *Armillaria solidipes,* and under the international rules of nomenclature, this is the name that must be used. The authors compared Peck's type specimen microscopically with representative specimens of Armillaria ostoye and found them to be almost identical. (*Burdsall, H.H., Jr., and T. J. Volk. 2008. Armillaria solidipes, an older name for the fungus called Armillaria ostoyae.North American Fungi 3(7): 261-267.)*

■ OSTOYAE REDUX: Now that the fungus formerly known as *A. ostoyae* must be addressed by another, older name, we should also take note that in addition to having alternate names, it also has alternate forms. DNA analysis by researchers at the University of Idaho established that there are demonstrable groups within this species, which they divided into a Circumboreal group (spanning the far northern regions), a Rocky Mountains group, and a Pacific Northwest Group. The circumboreal representatives may be found from Utah to New Hampshire and Russia, and presumably is the form we find here in NY. It is speculated that evolution of this genus can date back hundreds of millions of years, to the breakup of the supercontinent Pangea. *(For. Path. 37 (2007) 192–216, Phylogeographic patterns of Armillaria ostoyae in the westernUnited States, J. W. Hanna et al)*

■ TOXINS DIRECT: While most fungi produce toxins indirectly by way of specialized enzymes, researchers at Michigan State University have identified genes in section *Phalloidae* of the genus *Amanita* that directly encode for the production of the lethal amatoxin and phallotoxin. No other section of *Amanita* directly encode these toxins, which sets species in this section (such as *A. bisporigera* and *A. phalloides)* apart from their nonlethal relatives. Section *Phalloidae* is responsible for over 90% of all fatal mushroom poisoning. (*PNAS Nov. 27, 2007, vol.104, no.48, 19097-19101)*

FREE MUSHROOM LITERATURE ONLINE

The open source movement has produced a bonanza of material for mushroomers, and the following are some of the more interesting ones encountered recently:

The 1957 cult classic "Mushrooms, Russia and History" by Robert Gordon Wasson and Valentina Pavlovna Wasson is available in its entirety as a pdf download at http://www.newalexandria.org/archive/

The digital library for mycology, Cyberliber, (www.cybertruffle.org.uk/cyberliber) has been much enlarged, and more than 186,000 scanned pages of mycological publications have been added, including 54 complete volumes of the journal *Mycologia* and many complete books such as Fries' *"Observationes Mycologicae"*.

The Biodiversity Heritage Library makes available many classic biological texts, Including North American Flora, published early last century by the NY Botanical Garden, which contains keys to many genera.. At: http://www.biodiversitylibrary.org/

WINECAP CULTIVATION

Jim Lampert reports that he produced a good crop of winecaps (*Strophaia rugosoannulata)* this year. Last Spring he had a few yards of hardwood chips deposited in his yard, about 3-4 inches deep and buried some caps under the mulch. Watering was twice a day by the sprinkler system. Mycelial growth was noted in the summer and the final fruits of his efforts may be seen above. He is now experimenting with Morels. Stay tuned.

WELCOME, NEW MEMBERS

William Bogardus Melissa Davanzo Lisa & Kim de Guzman
Lucy Fitos Leonid Bespalov & Lois Mirkowski Prem Balkaran
Jeff Scacio Paul & Margarita Russell Linda Darley

Worldwide Mushroom Use ***(Cont'd from page 3)***

eration, as shown by the fact that older people (women especially) recognize many more species. Gathering and consumption of wild edible mushrooms is dying out, because of declining mushroom populations due to disappearing forest.

A wide variety of wild mushrooms is eaten in Mexico and Guatemala, but this practice seems not as popular in South America, except perhaps for southern Chile and Argentina. Darwin noted that the natives of Tierra del Fuego ate large quantities of *Cyttaria* species, (an ascomycete related to *Chlorociboria)* which are still being marketed. Suillus species which occur with introduced pine plantations in the Andes are dried and exported, but the natives make little personal use of them. Mexico, with 53 known species of hallucinogenic *Psilocybes*, has a centuries old history of ceremonial usage by indigenous cultures.

Cytarria sp.

Cordyceps sinensis is a mushroom that parasitizes larvae of moths, which inhabits the alpine grasslands of the Tibetan Plateau. Tibetans have used the mushroom, which they call yartsa gunbu ("summer-grass, winter-worm") for many centuries, if not millennia. The increase in the price paid to pickers has turned this tiny mushroom into the single most important source of cash for rural households in Tibet. 40% of rural cash income is derived from its collection, which was estimated at 50,000 kg in 2004, contributing $225 million to the region's GDP. the income from sale of Cordyceps often accounts for 70% –90% of a family's annual cash income in areas where it grows. It has become a glamour item among the wealthy Chinese, reaching an astronomical price of $32,000 per kg in 2006. Fears of over-harvesting and sustainability have been raised by conservationists.

Indeed, in various countries around the world, as well as several states in the U.S., these concerns, coupled with the increased trade in wild mushrooms and the disappearance of forest habitat, have led to increasing state control and restriction of both commercial and personal collecting. Whether these restrictions are well thought out or effective is another question.

A HISTORICAL SIDEBAR

"The cultivated mushroom had been a familiar species in the markets of Northeastern cities for at least 20 years by 1900. ...During Reconstruction after the American Civil War the Southern states shipped increasing amounts of produce northward during winter, forcing Northern market gardeners to erect greenhouses to remain competitive. In some of these greenhouses a design that allowed co-cultivation of salad greens and mushrooms was employed; florists subsequently might have begun to embrace this approach. Circa 1881 a purpose-built mushroom cellar 63 feet long was excavated and constructed at Dosoris,* Long Island, New York. In 1891 mushroom spawn "[could] be obtained at any seed store." Falconer estimated that about 34 tons of European mushroom spawn was imported into Northeastern cities, principally New York, per growing season (the American spawn industry did not really begin production until after 1900). In 1891 a pound of mushrooms netted US$0.50 to the grower, about US$11.00 today." (*From "Lectotypification of Agaricus brunnescens", Richard W. Kerrigan, Mycologia, 99(6), 2007, pp. 906–915.)*

*(*Now probably Glen Cove, where Dosoris Lane still exists. Editor.)*

Recent Helvellas

by Peggy Horman

In June of 2004, Carole Kazdan found *Helvella macropus,* a goblet shaped, grayish-tan asco, on a foray in Bethpage State Park. A new species to our list at the time, it is sometimes called Scurfy Elfin cup or Long Stalked Gray cup. Last week several were found in Shoreham.

Also last week I found a rare Helvella in a small park that Jim Lampert told us about: a seldom seen *Helvella corium*. It resembles *H. macropus* but is all black. Very few guidebooks list this mushroom and then only in passing. David Aurora's Mushrooms Demystified does have a description but no picture. Very exciting! (A web search will turn it up.)

Both these Helvellas are so enchanting due to their tiny size and unusual shape, that I hope you will all get to find one someday.

Helvella macropus

Helvella corium

FORAY RESULTS SUMMARY

APRIL 25 & MAY 2, WELLWYN: A total of about 2 dozen Black Morels (*M. elata)* were collected on the earlier date, and approximately 10 on the latter date, reversing the pattern of the previous year, when the greater amount was found the second week of collection.

MAY 16, BETHPAGE S.P: Our spring oyster hunt did not disappoint, and everyone picked enough for at least one meal or more of *Pleurotus populinus,* thanks again to Ken Gobright's high-reaching oyster harvester blade. *Agrocybe praecox* and *Agrocybe putaminum* were present as expected, and a huge fruiting of *Pholiota veris* decorated the trailside. One surprise was a small group of *Psilocybe,* perhaps *subaeruginascens*, not previously collected at this site.

JUNE 6, MUTTONTOWN PRESERVE (EQUESTRIAN): About 20 species were found, including 3 species of jellies, 2 Mycena, and the diminutive Black Jelly Oyster (*Resupinatus applicatus)* growing atop a log instead of underneath, where it is usually found. (See photo.) New to our list was the rare and even tinier *Phaeomarasmius erinaceus* (see Findings Afield, Page 1).

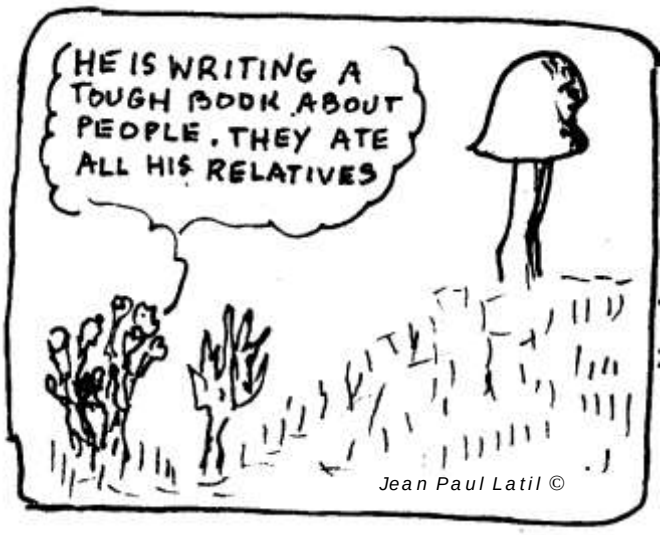
RECIPE CORNER

MUSHROOM STRATA

½ lb. mushrooms, sliced
¼ c. butter
6 slices bread, crust removed and cut into ½" cubes
½ c. onions, chopped
½ c. celery, chopped
½ c. mayonnaise
1 tsp. salt
½ tsp. pepper
½ tsp. dried thyme, oregano or tarragon (1 T. if using fresh)
2 eggs
1 c. ½ and ½ (or half cream and milk)
1 c. shredded cheddar cheese

Heat oven to 350 degrees.
Saute mushrooms in 2 T. butter for 2 minutes (pour off liquid when using wine caps.)
Butter a 8 or 9 " pan or 1 ½ quart casserole. Place half of bread cubes evenly in pan covering with mushrooms.
Saute onions and celery in remaining butter until soft (about 2 min.) Use this mixture for next layer . Place rest of bread cubes evenly on top.
Mix mayonnaise, salt, pepper, herb, eggs and ½ and ½ in a bowl until smooth. Pour over casserole making sure all ingredients are soaked.
Sprinkle with cheese. Cover and refrigerate for at least 2 hours. Bake for approximately 50 to 55 minutes.
4-6 servings.

Peggy Horman



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