LONG ISLAND MYCOLOGICAL CLUB

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L.I. SPOREPRINT

HAPPY NEW YEAR!

Available in full color on our website

VOLUME 19, NUMBER 4, WINTER, 2011

FINDINGS AFIELD

August is the month to look for Boletes, and this August saw the second highest rainfall total in Suffolk county since 1949, with 9.81 inches recorded at Brookhaven National Lab. This extraordinary event had extraordinary results, with several unusual species of *Boleteaceae* appearing that we had never encountered before, and that as far as can be determined, had not been recorded in NY State.

Tylopilus griseocarneus

Above is the somber hued *Tylopilus griseocarneus,* which Peggy found in the Riverhead pine barrens bordering Route 51. With its black coloration, red-orange staining and reticulate stipe, it is a Darth Vader of a mushroom, and cannot easily be mistaken for much else in North America, although several Asian and an African species are similar. First described in 1989 by Wolfe and Halling, its distribution stretches from the forests of southern New Jersey to

(Continued on page 7)

FOLLOW YOUR NOSE: MUSHROOM ODORS FOR IDENTIFICATION

The sense of smell varies widely between individuals, as does the ability to name a particular odor. These facts, the diminution of the sense of smell in humans, and the reliance upon visual cues have caused many collectors to be skeptical of the usefulness of aroma in the identification of species. Nevertheless, numerous chemical investigations of mushroom odors over the years have clearly demonstrated the association of particular chemical compounds with certain aromas. For example, the almond odor of some species of *Agaricus* as due to the presence of benzaldehyde, the repulsive odor of *Phallus* species to methyl mercaptan (also released by decay), and the coal tar odor of *Tricholoma inamoneum* based on a mixture of three chemicals (benzaldehyde, 1-octen-3- ol, and phenylacetaldehyde along with the presence of indole). Demonstrating the consistent association of mushroom aromas with the presence of particular compounds and combinations of compounds goes a long way to showing that aromas are not entirely subjective. With attention and experience, mushroom odors can aid in the field identification of many species, but only in combination with other observed characteristics, there being few species that can be identified blind. One is perhaps *Phyllotopsis nidulans,* (Orange Mock Oyster) whose unpleasant smell is usually described as that of rotten cabbage.

How many different kinds of odors are associated with mushrooms? R.G. Benedict and D.E. Stuntz opined in a 1975 article (Pacific Search, Sept. 1975) that "the far-roaming pothunter may encounter 27 different odors in…the Pacific Northwest". Matchmaker, the PNW mushroom search program, lists 71 aromas, ranging from anise to watermelon. Whatever the correct number may be, they are usually divided into three categories: neutral, offensive or unpleasant, and pleasant or aromatic. Intensity is another aspect that can serve as a modifier, i.e., a particular aroma can be weakly or strongly aromatic. The only general rule linking odor and edibility is the stricture not to consume any mushroom that has an unpleasant or repellant odor. (It goes without saying that the first rule is not to consume anything without an absolute identification.) There are several cases in the literature where individual have consumed a poisonous mushroom that has an unpleasant odor that

(Continued on page 3)

MEMBERSHIP RENEWAL FORM ENCLOSED

PRESIDENT'S MESSAGE

Even though the winter weather is definitely upon us, there are still mushroomy things we can do.

It is still nice to get outdoors and see what is happening. This time of year really doesn't provide much in the way of edibles but there are some lovely stereums and polypores around. We usually overlook them but right now they are the only game in town. See if you can find some and name them.

This is a good time to go over your mushroom books and really immerse yourself in the subject. I enjoy looking over some of my older books as many have interesting narratives to go along with the descriptions of the fungi. Some of my favorites are: *One Thousand American Fungi* (McIlivane & Macadam, 1902) and *The Mushroom Handbook* (Louis C. C. Krieger, 1936). Two lesser known books are *Mushrooms Wild and Edible* (Vincent Marteka, 1980) and my very favorite of all: *Celebrating the Wild Mushroom* (Sara Ann Friedman 1986.) Despite their age, there is much of value to be gleaned from them. Many have very good recipes included, too.

This is a great time to use your dried and frozen mushrooms. Most mushroom collectors have a number of cookbooks and now, with the internet, there are a myriad of recipes available. Make some soup or a stew or gravy. Their earthy aromas will evoke the past collecting season.

Now is the time to look for new books or apps. You can also visit the websites of mushroom clubs both national and international and learn what their interests and passions are.

Don't be bored with "cabin fever." Perhaps you can even write an article for this newsletter.

To all: have a happy and healthy 2012 and we'll see each other in the Spring.

EDITOR'S NOTE

Although it will not affect amateur mycologists directly, it is still heartening to know that after a long subjugation to Botany, where the fungal world was shelved, the recent changes to the Botanical Code (renamed the International Code of Nomenclature of algae, fungi, and plants) now permit the usage of "organism" rather than plant in the technical literature. The names of fungi will be simplified, so that only one name will be applied to both the sexual and vegetative forms of a fungus. And a Latin description of new species will no longer be required, diagnoses now being valid in either English or Latin. Moreover, electronic publication will now be acceptable for new species, which should speed the process considerably.

On an unrelated note, some of us were aware that we were accompanied on a few forays by a Stony Brook University journalism student. Her photo journalism project has been completed and Kaitlin Mannino's video essay has with her kind permission been made available via a link on our website. It is prominently displayed on our home page, and is well worth a look, particularly for those of us who missed the unique and productive forays in the Pine Barrens of Rocky Point.

MATERIAL FOR THE SPRING, 2012 EDITION SHOULD REACH THE EDITOR BY FEBRUARY 29TH

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

(All unsigned articles authored by editor.)

(Continued from page 1)

could have warned them had they enlisted this rule of thumb. Benedict and Stuntz mention the case of a woman who suffered muscarine poisoning after eating *Inocybe pudica,* which smells like green corn, as do many other toxic *Inocybes:* Matchmaker lists a total of 38. Not the best example, however, as green corn aroma is not universally considered unattractive.

The rule holds however, in the case of *Agaricus: A. silvicola* may be tough to separate visually from *A. pocillator* or *A. placomyces*, but the unpleasant coal tar fragrance of the latter two indelibly marks these toxic species. On the other hand, the contrary is untrue: i.e., a pleasant smell does not connote edibility. The odor of potatoes is not considered unpleasant, but this odor immediately brands any dull brown gilled mushroom as a usually toxic *Hebeloma.* Neither can a particular smell be considered, in and of itself, an indication of edibility. For example, the almond scented *Agaricus (arvensis, augustus, silvicola, subrufescens)* are all good edibles, while *Russulas* that have an almond component (*fragrantissima, foetentula, laurocerasi, pectinatoides)* are not.

Most mushrooms have a non-specific, generic "fungal" odor, which most find neutral or pleasant, and is usually referred to in guide books as "not distinctive". Beyond that, the most common odor seems to be "farinaceous", denoting floury or mealy: 230 are listed in Matchmaker. This odor is neutral in its relation to edibility: some farinaceous mushrooms are edible (*Agrocybe praecox, Clitopilus prunulus, Entoloma abortivum, Tricholoma portentosum)* others are toxic *(Galerina autumnalis, Entoloma lividum, Inocybe rimosa).* Another species non-specific odor is that of watermelon, which I have found to be associated with absolutely fresh picked young gilled mushrooms of many species. This soon dissipates and is lost; other mushroom aromas may be most strongly expressed at different life stages of the fungus. For example truffles and their relatives do not exude their aroma until "ripe"; the same holds true for stinkhorns, which makes sense biologically, since the odor serves to attract the creatures that consume and thereby spread the spores. Whether any other mushroom aromas serve a biologic purpose has not been determined.

While we may be unable to detect a distinctive aroma in a particular species of mushroom, that may not hold true for the forest animals that consume them. We have noticed that while the White – tailed Deer in our pine forests unearth and eat the edible Tricholomas buried under pine-needle duff, they avoid consuming the bitter *Tricholoma aestuans,* and the fact that they do not even bother to dig it up surely means that they can detect and identify it by smell. To human perception, this species lacks a specific aroma.

Species in the Bolete family mostly lack characteristic odors, with the notable exception of *Boletus pallidoroseus,* which we have taken to calling the "Beef-broth Bolete" locally, because of that particular unmistakable smell. Other intriguing and unusual smells which we encounter are: the coconut odor of *Lactarius hibbardae;* the burnt sugar or curry smell of *Lactarius camphorates;* the crabby odor of *Lactarius hygrophoroides* and *Lactarius luteolus;* the garlic smell of *Marasmius scorodonius* and *Micromphale perforans;* the anise odor of *Clitocybe odora;* the maple syrup aroma of *Bankera violescens,* and many, many others. As a rule, the volatile compounds that cause these smells are destroyed by cooking, so they are lost before they reach the table.

Odors may be helpful in identification, but they are not an absolute. For whatever reason, at times they may be absent (or too faint to detect) and at other times an unexpected aroma may be encountered. For example, this season both Aaron Norarevian and I collected, on separate occasions, specimens of *Tricholoma serratifolium* with a green corn aroma, not reported in the literature. It is possible that particular soil qualities or mycorrhizal associates can produce such local variation.

Despite the difficulty of putting a name to an aroma—stemming perhaps from what researchers say is a lack of strong connections to the non-verbal right brain where odor pathways lead— learning to attach a verbal label to a smell is strengthened by concentration and repitition. We have all had an "Aha" moment when a more experienced or perceptive person successfully names an aroma that seems familiar but whose identity eludes us. It is the accumulation of such moments that, as with wine aficionados, enables us to become connoisseurs of mushroom aromas, an ability that will serve us well in their identification.

NOTICE

IF THE RENEWAL FORM IS NOT INCLUDED IN YOUR COPY OF THIS ISSUE THAT MEANS THAT YOU ARE A PAID-UP MEMBER FOR 2012.

FORAY RESULTS SUMMARY

SEPT. 25, EDGEWOOD: This was held on Sunday, a last minute change due to storm predictions. A goodly total of 61 species were collected, including 7 species of Amanita, 6 in the Boletaceae, 3 of the Chanterelle family, and good numbers of the edible Black Trumpet. The forest floor was bright with red, yellow and orange colors of *Russula, Lactarius* and *Cortinarius*. An unseasonable outcropping of the Spring Oyster (*Pleurotus populinus)* was unusual.

***Russula earlei*- one of the most primitive Russulas**

OCT. 1, ROCKY PT PRESERVE: A comparable total of 64 species was collected in this new area of Rocky Pt. pine barrens, as well as some of the same species as above. In addition, there was Leccinum, Grayling, Cauliflower, Maitake for edibility. New to the LI checklist was *Collybia cookei*, one of the 3 species still retaining the name of Collybia, which grows from a sclerotia. A small dark Cortinarius keyed out as *C. castanellus*, also previously unrecorded.

Cortinarius castanellus

OCT 8, MUTTONTOWN EQUESTRIAN: Except for a good number of Hen-of-the-woods, and *Lycoperdon pyriformis,* this was a lackluster foray, with only 26 species. Noteworthy was *Agrocybe erebia,* infrequently encountered on L.I.

OCT 15, SOUTHAVEN: 60 species was a respectable total, with a preponderance of Russula and Lactarius; 4 species of Suillus, both Laetiporus, and Hen-of-the-Woods constituted the edibles. The puffball *Bovistella radicata* was added to the LI checklist.

Bovistella radicata

OCT 22, EDGEWOOD: There were 3 new species among the 57 species collected: *Clitocybe americana, Cortinarius bolaris,* and *Pholiota highlandensis,* the "Burn Site Pholiota" identified on sight by Aaron. Tricholomas were just beginning to show, but good amount s of Leccinum and Larch Suillus (*S.grevillei)*, as well as Brick Caps and Grayling, contributed to the edibles. The coconut odor *Lactarius hibbardae* was extremely abundant.

Cortinarius bolaris

NOV 5, EDGEWOOD: We returned here since Rocky Pt. was less productive than expected, and found the season had moved on to late Autumn fruiting, with such species as Albatrellus, Shaggy Mane, *Hygrophorus hypothejus, Hygrophorus ponderatus, Lepista nuda* (Blewit), *Tricholoma flavovirens* and *T. niveipes* in good numbers for all the pot hunters.

NOV 12, ROCKY PT: This particular area was found by Peggy, and previously not explored by us. Predominantly Pitch Pine on high sand dunes, the mushrooms were mostly undisturbed, compared to similar nearby areas which the deer had decimated. The expected species of *Tricholoma (flavovirens, niveipes)* were found in abundance as was *Hygrophorus ponderatus and H. amygdalinus. Laccaria trullisata* littered the dunes, but was too sandy to collect. While the biomass was great, species were reduced to 32.

Pholiota highlandensis

NOV 19, EDGEWOOD: This was an impromptu foray based on Paul Tomko's report of a large fruiting of Shaggy Manes. Everyone collected enough of these for several hearty meals, and many more remained. 29 additional species were collected, the most numerous being the *Tricholomas* with ample amounts of the edible *flavovirens, niveipes,* and *portentosum*. Two new species made an appearance: *Stereum hirsutum* and *Mycena fusco-ocula,* the latter usually considered a species with a western distribution.

Paul's patch of Shaggy Manes

(Continued on page 6)

Gleanings

■ **PREHISTORIC MUSHROOM MURAL:** The accompanying illustration, a tracing from the Selva Pascua cave in Cuenca, Spain has been interpreted by a team of archeologists, ecologists and mycologists as comprising the first direct evidence for possible ritual *Psilocybe* usage in prehistoric Europe. Details of the painting, particularly the conic pileus and sinuous stipe, are thought to be characteristic of the local *Psilocybe hispanica,* a coprophilic species. *(A Prehistoric Mural in Spain Depicting Neurotropic Mushrooms? Economic Botany, 65(2), 2011, pp. 121–128)*

■ **HIDDEN FUNGI BROUGHT TO LIGHT:** Long known only from DNA soil assays, the ubiquitous Soil Clone Group 1 has finally been designated as a new class of the Ascomycota: Archaeorhizomyces. An international team of researchers has now observed the fungus and its spores in culture, and named it *Archaeorhizomyces finlayi,* and located it in the Taphrinomycotina, a very diverse subphylum. Although it colonizes coniferous root tips it is not clearly symbiotic and its life style and cycle remain unknown. Widespread across the Northern hemisphere where it is associated with conifers and hardwoods, there are probably more than 100 species which remain to be named. Together with the recently described Cryptomycota, they constitute what may be considered the "dark matter" of the mycota. *(Archaeorhizomycetes: Unearthing an Ancient Class of Ubiquitous Soil Fungi, Anna Rosling et al, Science, V.333, Aug 12 2011, p.876)*

■ ***SPONGIFORMA SQUAREPANTSII*, A NAME YOU WON'T FORGET:** Unlike most Latin names, this whimsical appellation that has been bestowed on a new species of fungus discovered in Malaysia will stay with the reader forever. Yes, it is an honorific based on the famed cartoon character SpongeBob Squarepants. It has already received more publicity worldwide than any other new species, a Google search coming up with 34,420 results ranging from Mycologia to Facebook. On the basis of DNA analysis it is characterized as a gasteroid Bolete, and is placed between *Strobilomyces* and *Porphyrellus (Tylopilus).* Spore dispersal is thought to be based on some yet unknown animal. *(Spongiforma squarepantsii, a new species of gasteroid bolete from Borneo, Desjardin et al,Mycologia, 103(5), 2011, pp. 1119–23)*

■ **NOT ONLY THE ACORN DOESN'T FALL FAR FROM THE TREE:** Recent research demonstrated that 95% of spores of six ectomychorrizal basidiomycete species, including *Inocybe lacera, Laccaria laccata*, and *Suillus brevipes,* fell within 58 cm (less than 3 feet) of the cap. This Oregon study focused on horizontal dispersion in relatively light winds, and revealed a pattern based on mushroom height and spore volume, with greater distance achieved by taller mushroom bodies. Smaller spores were noted to travel much further. Although only 5% moved greater distances, spore production is so great that 5% can amount to 50,000,000 spores and it is calculated that moderate wind speeds have the potential of carrying them more than 40 meters. *(95% of basidiospores fall within 1 m of the cap: a field- and modeling-based study, Mycologia, 103(6), 2011, pp. 1175–1183)*

■ **MYCELIUM MUNCHERS:** Contingents of invertebrates, including woodlice, millipedes, springtails, and nematodes are known to graze upon mycelia, and this study compared the effects of different browsers (under laboratory conditions) upon the emergence of wood-rotting fungi from their substrate into the soil, where they are vulnerable. Impacts varied between taxa, with woodlice having the greatest impact, affecting all mycelial development and completely blocking two fungal species whereas mites and enchytraieds (potworms) had no measurable effect on any. The authors conclude that predicted changes to invertebrate community composition as a result of climate change are likely to have dramatic implications for fungal community structure. *(Species-specific effects of grazing invertebrates on mycelial emergence and growth from woody resources into soil, FUNGAL ECOLOGY 4, 2011, p.333-41)*

(Compiled by editor from indicated sources)

AN AUTUMN'S TALE


photo©Arie Pavlou

Through our website, LIMC is often contacted by individuals who have questions regarding the identity of mushroom species that they are curious about, or whose edibility is not known to them. But when Peggy received an email and photo attachment on Nov. 24 from Arie Pavlou, executive chef at the Comtesse Therese Bistro in Aquebogue, he already suspected that the mother lode of mushrooms he had found were Oysters, but was soliciting an expert opinion before he cooked and served them. As the restaurant is only about 10 miles away we were happy to oblige, and to see such a large collection of one of our favorite edibles. It was already obvious from the photo (right) that they were *Pleurotus ostreatus*.

When we arrived, we were simply amazed at the size of the collection, and the size of some of the larger specimens, which were easily a foot across. There were cartons and cartons of Oysters, which Arie proceed to weigh. The entire collection (actually two trees worth) was over 100 pounds! Chef Arie was kind enough to give us about 20 lbs, which we shared the following day with those of our members who attended the last foray of the season at Welwyn, where we collected even more Oysters. In return he received a bag of dried Black Trumpets, which, having trained in France, he knew as *Trompetes de Morte*.

The story doesn't end there. After the local newspaper, Suffolk Times, reported the episode, it came to the attention of the Suffolk Dep't of Health, which descended upon the bistro in a vain search for the contraband, which is what wild mushrooms are considered when offered for sale. These however had already been cooked, served and enjoyed by many patrons, as they also had by us. A Dep't of Health spokesperson explained to the newspaper that it is not illegal to go out and pick mushrooms for personal use, only to serve it in a food establishment. So the chef will in the future enjoy his wild mushroom dishes at home, and his customers will have to go without.

The irony of it is that wild mushrooms continue to be sold at farm stands and farmers markets both here and in NYC, with no reports of health issues. While the popularity of wild food consumption grows, state authorities everywhere have failed to address this growing demand with the proper regulation, rather than blanket dismissal. For example, the Maine Mycological Association has been attempting for years to institute a foraging certification procedure, but has encountered political resistance. In the words of David Arora, author of Mushrooms Demystified, regarding the state of foraging, particularly in the United States, "First it is forsaken, then it's forgotten, and finally it's forbidden".

(Continued from page 4)

NOV 26, WELWYN: The last foray of 2011 produced 18 species, 17 of them wood-decayers. Edibles included Oysters, Autumn Oysters *(Panellus serotinus),*and Velvet Foot (*Flammulina velutipes).* Two were new: *Dacrymyces stillatus (*probably overlooked previously), difficult to differentiate from *D. palmatus* in the field; and *Mycena subsupina,* yet another grayish *Mycena.*


Dacrymyces stillatus


Stereum hirsutum

Findings Afield

(Continued from page 1)

the Gulf Coast to Louisiana. It is microscopically differentiated by the presence of both pleurocystidea and cheilocystidea; spores hyaline, 8-14 X 3-5 microns, fusiform-elliptic. Both the tubes and flesh stain orange-red. While our specimen (there was only one) was 6 cm wide, it can be almost twice that size. This species will be added to our LI checklist, although whether the set of circumstances that produced it will ever repeat itself is an open question.

In the Cranberry Bog area, not far from the previous location, and on the same date, we also encountered *Suillus decipiens,* a species of that was new to us, but in contrast to *T. griseocarneus*, was very prolific, and gregarious in growth habit. It resembled nothing so much as an old, faded *Suillus pictus,* but was not that species. Also similar is *Suillus hirtellus.*

In contrast to many species of Suillus, the cap was dry, not viscid, and distinctly fibrillose to scaly, the fibrils reddish to orange-brown against a pale yellowish background. The context was also yellowish, reddening upon injury (arrow). The stipe tended to be long in relation to the cap, and was roughened and fibrillose, at times almost reticulate, with a superior annulus which was not always retained. The pore surface was yellow-orange, with compound pores, bruising brownish.

Suillus decipiens

Found from New Jersey south to Florida and west to Texas, it is considered edible, but was not sampled by us; maybe next time. According to Ernst Both (The Boletes of N.A.) the appellation means deceiving, based on its resemblance to the European species *S. flavidus*. Among the more popular general guides it may be found only in Phillips, where it is nicely illustrated contrasting with *S. pictus.*

Additionally, during August, we also added the following species to our list: *Boletus lignicola,* associated with the stumps of White Pine; *Tylopilus rhodoconius,* first described in 1998, and with imperfectly known distribution (Cape Cod & Florida); *Leccinum carpini,* aka *L. griseum,* a rather dull colored species with an areolate cap, associated with Oak (found by Tony Mish in Blydenburgh CP).

From the pages of sister newsletters….

The Jan 2012 edition of **"Mainely Mushrooms"** contains a poisoning report by physician Laurie Leonard describing several poisonings caused by eating Coral mushrooms. The first incident occurred some years ago when three members were hospitalized after eating what they believed to be *Ramariopsis kunzei* but which was in fact the very similar *Ramariopsis lentofragilis*. A similar error resulted recently in another hospitalization after a man ate a coral mushroom subsequently identified by Prof. Ron Petersen as *Ramariopsis asterella,* not previously known from Maine.

Because of the many cryptic species among the coral mushrooms, the difficulty in identifying them, and the lack of desirable edibles in this group, the LIMC always advises against the consumption of any of this group. We except the wood dwelling genus *Hericium,* which is not a member of this group, and contains choice edibles.

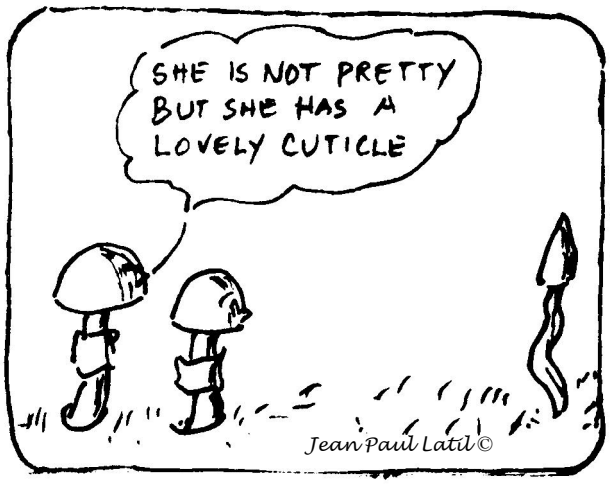
SOMA Wild Mushroom Camp 2012

The Sonoma County Mycological Association (SOMA) will be hosting the15th annual SOMA Wild Mushroom Camp on M.L.K. weekend, January 14-16, 2012, near Occidental, in Sonoma County. The public is invited. The Camp, a benefit for SOMA, is full of mushroom forays, speaker presentations, gourmet mushroom cuisine, and classes and workshops on mushroom identification, cooking, dyeing, paper-making, medicine making, photography, cultivation, and more.

The spacious, modern camp buildings are set amongst 225 acres ofoak, madrone, tan oak, redwood, and Douglas fir. The shared cabins are heated, and are bright, clean, and airy, with hardwood floors and stylish bunks.

Fees:$325 for full weekend, which includes lodging, meals, and all classes & activities. $275 with off-site lodging, $110 for Sunday only.

A registration form may be obtained at www.somamushrooms.org, or call 707-823-1376.



IN THIS ISSUE

"The test of a vocation is the love of the drudgery it involves."

Logan Pearsall Smith,
Afterthoughts (1931)

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