LONG ISLAND MYCOLOGICAL CLUB

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L.I. SPOREPRINT

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FINDINGS AFIELD

Again, a dry Spring, this year with the third driest April on record, and May even worse, with only .53" recorded at BNL, the lowest on record, compared to an average of 3.83". Little could be expected to flourish under these conditions, so when we encountered a gilled mushroom on May 24, it was a genuine feast for the eyes.

Neolentinus lepideus

These were growing on timber that formed a garden border in Yaphank. Somewhat scaly, Pholiota initially came to mind, but white gills, and subsequently a white spore print, eliminated that thought. It turned out to be a species we had encountered upstate, but never before on Long Island. *Lentinus* (now *Neolentinus*) *lepideus*, aka the Train Wrecker, has a predilection for commercial timber, sometimes growing on and decaying railroad ties, hence its name. Edible when young and fresh, it is more closely related to Polypores than to other gilled mushrooms.

It will now become the latest addition to our LI checklist.

Southern Pine Beetle Invades Long Island Pine Barrens

by Robert Marsh, Natural Resources Supervisor, NYS DEC

(From the Spring 2015 issue of "Today", LI Pine Barrens Society Newsletter. By permission)

Southern Pine Beetle(SPB), *Dendroctonus frontalis* Zimmermann, is native to the southern United States and is the most destructive insect pest of pine trees in that part of the country, causing tens of millions of dollars in damage annually. The beetle, which is smaller than a grain of rice, feeds on the living tissue under the tree's bark called the phloem. The adult beetles and the larvae create winding S-shaped galleries through the phloem which girdles the tree and typically kills it. The beetles also carry two different species of fungi, which then colonize the trees and attack xylem tissue, blocking water uptake, which also contributes to tree mortality. Consequently, once SPB have successfully colonized a tree, the tree cannot survive, regardless of treatment. Some healthy trees can fend off colonization by small numbers of beetles by "pitching out," which is the tree releasing resin when the beetles first bore in. The beetle typically attacks trees in large numbers, which depletes a tree's resin and its defenses. The female beetles release an aggregation pheromone (frontalin) which leaves a trail for other beetles to follow and attack the same tree.

Wertheim NWR, Shirley: an area where infested pines have been felled.

While it is native to the southern United States, SPB has recently been expanding its range northward due, in part, to climate change. In 2001 a SPB outbreak was detected in the New Jersey Pine Barrens and by 2014, over 30,000 acres of pine trees had been lost. In 2010 alone, New Jersey lost 14,000 acres to SPB. The large increase in SPB beetle numbers in 2010 was caused by a combination of a warm winter, resulting in low beetle mortality, followed by a drought during the growing season. Trees are more vulnerable to

(Continued on page 6)

PRESIDENT'S MESSAGE

How happy I am! The rain has come and with it my favorite things….mushrooms. Joel and I have found an abundance of chanterelles and *Lactarius hygrophoroides*. The latter has always been special to me. It has a great taste and a crunchy texture when cooked. We found plenty in Brookhaven SP and have had a couple of tasty meals with them. Others in the club have reported Black trumpets, summer boletes and other edibles. Please see Maria's Yahoo page to see pictures. This summer has been producing and let's hope it keeps up.

(We just returned from a trip to Turkey and I, as ever, looked for mushrooms in the cuisine. There were some cultivated ones in an olive, pepper and eggplant salad that were quite nice. The only other ones were perfect 1 1/4 inch white specimens that were in a cream/salt mixture. They were not over cooked and tasted really nice.)

We will have our annual picnic on September 12th and if anyone has a mushroom related item to donate for our free raffle, please see me at a foray or bring them to the picnic. (It is getting harder and harder to find items and any donated things will be much appreciated.*)

Some of us will be attending the upcoming NEMF and NAMA forays in August/September. In the future I hope some more of you will take the plunge and go to one. There is always something interesting to learn and a chance to meet old and new friends alike.

Have a happy and fruitful summer. Be careful what you eat! See you in the woods.

*Thank you, Mary Beth & Paul.

EDITOR'S NOTE

Observant readers will have noticed the odd squarish design on this edition's masthead. For those who are unfamiliar with it, this is known as a QR code generator, a machine-readable code which, when scanned, will direct one to a website much more quickly than manually entering a URL. In this case, it immediately accesses the LIMC website. Smartphones with the correct reader app can scan the image and open our webpage, where members can enter the password and retrieve the foray schedule and directions, species lists, and previous editions of this newsletter dating back to 2002. We have our dedicated webmaster, Dale Robins to thank for this latest innovation, who has also formatted the website for smartphones. Hopefully, this will draw younger viewers, who are more likely to use smartphones and tablets.

Dale is but one of many people who work behind the scenes to enable the club to run smoothly. Our foray chief Jacques particularly, an indefatigable surveyor with an intimate knowledge of our wild places, whose efforts ensure our successful forays. And Maria, who oversees our Yahoo group, provides an avenue for our members to report back on their individual efforts, clueing us all in to what we might otherwise overlook. Join us at Yahoo!

MATERIAL FOR THE AUTUMN, 2015 EDITION SHOULD REACH THE EDITOR BY SEPTEMBER 1ST.

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

(All unsigned articles authored by editor.)

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THE HAT TRICK WITH PLEUROTUS POPULINUS, THE SPRING OYSTER

Although Morels are elusive, and may fail us, the Spring Oyster is dependable and can be counted on to make its annual appearance. This year it outdid itself and was collected at three sites: Bethpage SP, Edgewood Preserve and the Rocky Pt Management Area. Bethpage was a week later than scheduled, after Ken Gobright alerted us to the fruiting. In fact, on May 17 we conducted dual forays at the latter two sites, with more than ample amounts at both, thereby satisfying both our eastern and western contingents. We have Paul Tomko to thank for revealing the potential of Edgewood, where many of the host Poplars are hidden behind the dominant Pitch Pines; and Peggy for the Rocky Pt site. Although species variety was almost entirely absent, our satisfied pothunters had no complaints. What seemed counter intuitive was this display of plenitude in a time of "moderate drought" as characterized by the National Weather Service. Seemingly, although *Pleurotus populinus* is found on dead Poplar trees, these must continue to have access to a source of moisture.

Although *P. populinus* is host specific, and occurs only on Poplar, in our experience, its close relative, *P. ostreatus*, the Oyster Mushroom, is more of a generalist, and can occur on various hardwoods, including Poplar, where we collected a small bunch during the Bethpage foray.

Hi-tech Harvest: Bob Cresko slashes while Peggy & Steve gather the spoils

Rocky Pt: A distant glimpse of the quarry in the Rocky Pt. poplar grove.

Bethpage harvest: jubilant collectors contemplate their target species.

A NEW MEXICAN MUSHROOM FORAY IN THE EASTERN SIERRA MADRE

To be led by Alan Rockefeller, a well-known amateur mycologist, this newly announced four day foray, which starts on August 6, will be conducted and arranged by the Grupo Ecologico Sierra Madre, a locally owned and operated sustainable tourism endeavor. The cost is from $319 pp in shared cabins.

Collecting will take place in both temperate and pine cloud forests.

The eco-center is situated in the town of Jalpan de Serra, in the state of Querétaro, a six hour drive from Mexico City by car or direct bus service. Not for the unadventurous!

For further details, including photos and contact information access:

http://sierragordaecotours.com/en/welcome/

FORAY RESULTS SUMMARY

WELWYN, APRIL 25: Alas, no Morels were found, so after 4 barren years, it may be time to search for alternate Black Morel sites. We did find a few lingering asco's and 3 species of gilled mushrooms, all on wood: Flammulina, Lentinus, and Pleurotus.

PLANTING FIELDS, MAY 2:Cancelled.

BETHPAGE SP, May 9: Cancelled

BETHPAGE SP, MAY 17: This foray was shifted from Planting Fields, and was a great success. See "Hat Trick" on page 3.

Edgewood Preserve & Rocky Pt, May 23: Dual Flash Forays at both these sites for Spring Oysters and a great harvest. See "Hat Trick" on page 3.

MUTTONTOWN PRESERVE, JUNE 6: Cancelled.

NY BOTANICAL GARDEN HERBARIUM TOUR, JUNE 13: See photo essay by Andy Greller, page……

CHRISTIE & NORTH ENT. CHELSEA, JUNE 27: Led by Jacques, a total of 30 species was above average for this time and place, and included 8 species of Amanita, 9 of Russula, an early *Suillus granulatus,* and 3 of the Boletes.

HECKSCHER SP, JULY 4: Again led by Jacques. 27 species about average, with 6 Boletes, several edible Russulas, and a few Chanterelles.

BETHPAGE SP, JULY 11: Another high average, over 50 species, with good numbers of edibles such as Black Trumpets, Chanterelles, Russulas, and a handful of young Summer Bolete, *Boletus reticulatus.*

EXTRA-FORAY REPORTS:

Although several forays were cancelled due to the drought conditions (2"of rain in April, and 1/2 inch in May) our members were not deterred and reports drifted in of individual finds: Winecaps, Oysters, Coprinus micaceus, Chicken, and topping the list: MORELS!

Eastern Yellow Morels, which are rare on L.I., were found in two spots not previously known to produce them: the North Fork, as reported by Andrew Rockwell, and Locust Valley, reported by Chris Nellen (see photos below).

PICKING KING BOLETES IN THE PACIFIC NORTHWEST

An excerpt from "The Mushroom Hunters-on the Trail of an Underground America"

By Langdon Cook, Ballantine Books, 2013

"A King Bolete patch in full flush is a lovely sight to behold. Chanterelles may be beautiful nuggets of gold in the dark woods, but Kings are something special. Even after years of picking King Boletes, I still get a thrill with each find-and this thrill would come a hundred times over on these few acres of second-growth timber as we settled down and started picking. For reasons beyond my understanding, certain individual trees hosted three, four, even a dozen mushrooms. They rose from the duff and moss with their classical mushroom form: bell-shaped cap and thick stem. Thinly sliced lengthwise, these boletes were the silhouette of a perfect mushroom. small yet dense, they made a satisfying *plop* sound as they landed in our buckets. We pulled each one out of the ground, trimmed off the dirty tip of stem, and moved onto the next. Later, the mushroom buyer would grade them. Young buttons such as these were known as "number ones" and commanded the highest price. The numbers twos with generally larger and softer than the ones. The number threes, also called "dryers" were past their prime and got sliced up and dried for later use. My pulse quickened as my bucket filled, I raced through the forest with eyes glued to the ground, intent on the next score- too busy to even recognize the inexorable pull of a new addiction. I had porcini fever…."

Peg & King Boletes, Vancouver I., BC

■**FOUR NEW NA SPECIES OF *GYMNOPUS*:** RH Petersen and Karen Hughes of the University of Tennessee recently described four new species of *Gymnopus*: *G. barbipes, G. disjunctus, G. micromphaleoides,* and *G. pseudoluxurians,* all placed in subgenus *Vestipedes,* all of a southerly disposition, although *G. disjunctus* was also collected in Conn. (COMA 2013) hence its appellation. As an aside, this paper also reminds us that *Micromphale* has now been subsumed under *Gymnopus,* and that *Marasmius androsaceus* and *Marasmius scorodonius* are now both more correctly placed in *Gymnopus.* (*Petersen & Hughes, New American species of Gymnopus. North American Fungi 9(3): 1-22* –pdf available online.*)*

■ **DUELING MORELS:** Following closely on the heels of Kuo et all's revision of the Morels of NA, this expanded multi-locus molecular study of the true Morels of Europe and NA concludes that there exists 22 species in NA and 21 in Europe, with an overlap of 7 species that occur on both continents. For the Eastern NA yellow morel that we collect, the name *M. americana* Clowez (2012) is retained over *M. esculentoides* Kuo (2012). That this conflict remains unsettled is reflected in the fact that Index Fungorum retains both names while Mycobank has discarded *M. esculentoides. (True morels (Morchella, Pezizales) of Europe and North America: evolutionary relationships inferred from multilocus data and a unified taxonomy. F. Richard, J.M. Bellanger, P. Clowez, et al, Mycologia March/April 2015 vol. 107 no. 2 359-382)*

■ **THE NOBLE POLYPORE IS MORE ABUNDANT THAN BELIEVED:** *Bridgeoporus nobilissimus,* the only NA mushroom designated as endangered, whose large size (almost 6 feet across and weighing up to 290 lbs.) qualified it for the Guinness book of records, was thought to be exremely rare. Limited to the Pacific NW, it was found only on old growth fir and hemlock. The present study, after testing for the presence of *B. nobilissimus* DNA in forest plots surrounding known specimens, found that trees of all sizes hosted it, although the density was highest in old growth stands, and it was present in three conifer species not previously known as hosts. The researchers conclude that "the survival strategy of this fungus is to produce and maintain a mycelial presence in its hosts while infrequently producing a long-lasting basidiocarp." *(Bridgeoporus nobilissimus is much more abundant than indicated by the presence of basidiocarps in forest stands. Matthew Gordon, Kelli Van Norman, North American Fungi 10 (3) pp1-28)*

■ **WHAT COLOR WAS THAT RUSSULA?** Many of us like to believe that we can remember the color of a particular species of mushroom and can therefore identify it on that basis. But Dr. Mark Fairchild, director of the Munsell Color Science Laboratory at the Rochester Institute of Technology states that the human ability to remember colors over even a short period of time is very poor. We can reliably identify only tens of colors, with hard study perhaps a hundred or so. There is no color sensory equivalent to "perfect pitch" which allows a small percentage of people to precisely identify tones after a period of time without a reference tone for comparison. Color is almost always judged relative to other colors with the effect of context being much greater; "we can identify the tone in a chord, but we cannot identify the wavelength makeup of a color." Something to bear in mind the next time we clinch an I.D. by color. (*NY Times, Science, May 11, 2015)*

■ **WHY MUSHROOMS GLOW:** We are familiar with some common species that are known to glow, among them *Panellus stypticus, Omphalotus olearius,* and *Armillaria* species. There are actually 71 species that glow of the approximately 9,000 species of Agaricales. Prior to this current research, it was believed that fungal bioluminescens was a metabolic byproduct, producing light-emitting compounds around the clock, an expensive proposition biologically. By monitoring the bioactivity of the known luminescent mushroom *Neonothopanus gardneri* of Brazil, it was established that such activity is not constant, but is controlled by a "temperature-compensated circadian clock" so that the luminescent compounds are produced only at night. Since this implies an adaptive function, sticky acrylic mushroom effigies lit by a green LED were shown to attract insects at a much greater rate than unlit ones, It is speculated that this leads to spore dispersal and further research is planned using infrared cameras to record the interaction between *Neonothopanus gardneri* and their insect visitors. *(Circadian Control Sheds Light on Fungal Bioluminescence, AG Oliveira et al, Current Biology, Vol. 25, 30 March 2015, pp. 964-968)*

(Compiled by editor from above-cited sources.)

Humans & Pine Barrens ***(Continued from page 1)***

attack when stressed by drought, extreme temperatures, high density stands, or other parasites.

SPB was detected for the first time on Long Island in October, 2014. It has since been confirmed in multiple locations from East Hills in Nassau County to Nappeague in East Hampton. The worst outbreaks include Connetquot State Park in Islip, Wertheim National Wildlife Refuge in Brookhaven, and Henrys Hollow State Forest/Munns Pond County Park in Southampton. SPB is known to attack all species of pine trees, spruce trees, and hemlock. Spruce trees, hemlocks, and white pines are somewhat resistant to the beetle but still suffer significant mortality. Pitch pine is a preferred host of SPB and has low resistance to attack. Long Island's Pine Barrens, an area of over 100,000 acres, is co-dominated or dominated by pitch pine, putting it at a high risk of suffering significant outbreaks and tree mortality. The beetles prefer trees that are at least 5" in diameter, so it is unknown if rare ecosystems like the dwarf pine plains may also be at risk.

Developing and implementing a landscape level SPB management plan is critical to dealing with this challenging forest health issue that occurs over a heterogeneous landscape that includes bothforested and urban environments. As the SPB response involves a number of different landowners and government agencies, an Incident Command System (ICS) team has been put together that includes representatives from Federal, State, County, and Town agencies as well as NGOs and Universities. The ICS structure allows multiple agencies to respond to an incident using a common hierarchy and coordinated effort.

The SPB management plan is comprised of several key components. First, there is an intensive monitoring effort including: aerial surveillance, ground truthing of potential infestations, pheromone trapping, weather data, and forest inventories, all of which help document the location of current infestations and vulnerability of uninfested stands. Second, sites are prioritized based on the level of infestation, ecological value, proximity to uninfested forest, and recreational value. Finally, a treatment methodology is determined for select sites which may include suppression (cutting of infested trees) or stand level prevention through silvicultural thinning (which reduces stress on remaining trees helping them fend off beetle attacks). It is important to note that the focus of suppression efforts are on infested trees which have a near 100% mortality rate (in pitch pine) once successfully colonized.

Unfortunately, once SPB has become established in a region, it has proved impossible to completely eradicate it through man-made means. A 1939 outbreak in New Jersey died out due to extremely cold winter temperatures. Recent surveys of infested trees here on Long Island showed that this winter's low temperatures caused significant SPB mortality, but did not completely eliminate the pest. The hope is that this winter's die-off will at least help agencies get ahead of some of the outbreaks.

SPB is likely here to stay in the Long Island Pine Barrens and will be a major forestry management issue for years to come.

Editor's note: SPB carries two destructive fungi in specialized structures (mycangia) in its exoskeleton: Ceratocystiopsis ranaculosus and Endocortium sp. A, which attack the pine. Another fungus, Ophiostoma minus, hitches a ride on the Tarsonemus mites, which are themselves being transported by SPB. All three of these fungi compete for access to the pine phloem, vascular structures that carry essential nutrients, and proliferate throughout these tubes, eventually completely blocking them. The mites also release fungal spores as they travel through the beetles excavated tunnels.

The trees attempt to resist the invading beetles by exuding oleoresins to trap and entomb them, but are usually unsuccessful in fending off the enormous hordes.

*A similar calamity, also attributed to climate change, is befalling pines in the west, where the endemic Mountain Pine Beetle (*Dendroctonus ponderosae),*is expanding its range hundreds of kilometers north, as well as upslope, breaching the historical barrier of the Northern Rocky Mountains and invading new territories. In British Columbia it has destroyed 37 million acres of pine. The fear is that it will continue to expand across the continent until it reaches the eastern pine forests, with unknown but possibly dire disruptive effects on entire ecosystems, decimating populations of mammals, birds and fungi.*

LIMC tour of NY Botanical Garden Herbarium

Photo-essay by Dr. Andrew Greller

On June 13, LIMC members were privileged to enjoy a private guided tour of the NYBG Herbarium, led by Dr. Barbara Thiers, Herbarium director, and the eminent mycologist Dr. Roy Halling. The group was treated to a fascinating and memorable array of historical specimens, rarities, and fungal illustrations without peer. For those who missed this event, we will endeavor to arrange a repeat in 2016.

Left to right: Steve, Dr. Barbara Thiers, Dr. Roy Halling, Irina & Greg, Jacques, Caterina, Annie, guest, Maria , Monika & Bunny.

Dr. Barbara Thiers displays a historical mushroom illustration (see below, right).

Ergot, *Claviceps purpura*, a grain parasite, is displayed and discussed.

Collection of assorted dried fungi.

Painting of a species type, G. Massee, 1902

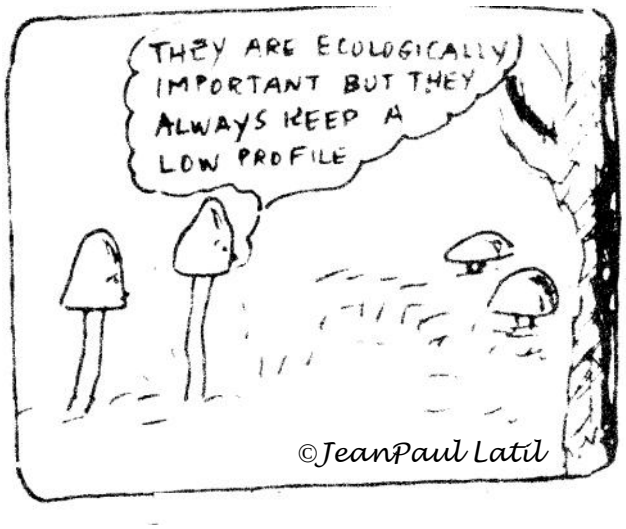
Fantastic Fungi of the Adirondacks

A 4-day field course in Mycology at Shingle Shanty Preserve and Research Station. August 19 -22, 2015. Taught by Dr. Rick Van de Poll, who many of us know from his polypore lectures at NEMF. He currently teaches mycology at Plymouth State University.

This is an introductory course for beginners that will introduce basic ecological concepts as well as the major groups of macrofungi. It will also delve into taxonomy using fresh specimens and identification keys.

Participants, limited to eight, will be camping in tents on the Preserve, which has no access to electricity, running water, or cellular phone reception. Made to order for someone who really wants to get away from it all!

The cost is $450 which includes meals, provided at a rustic cabin near the campsite. For further information visit http://www.shingleshanty.org/education.html or email singleshantyresearch@gmail.com



IN THIS ISSUE

"In all affairs it's a healthy thing now and then to hang a question mark on the things you have long taken for granted."

Bertrand Russell

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