LONG ISLAND MYCOLOGICAL CLUB

http://limyco.org

Available in full color on our website

LI SPORE PRINT

Season's Greetings!

1973-2017

VOLUME 25, NUMBER 4, WINTER, 2017

FINDINGS AFIELD

We find the stalked puffball, Tulostoma, infrequently, so we were fortunate this past season to encounter two new species in that genus.

The most common species, and the only one currently on our checklist is *Tulostoma brumale,* a common species widespread on several continents. It closely visually resembles *T. simulans,* so named as it "simulates" *T. brumale.*

Tulostoma simulans

Both have a tubular mouth, best seen in the two at the extreme right. They differ in several aspects externally, *T. brumale* having a more bulbous base; but the microscopic features are more telling, *T. brumale* having a small globose spore (3-5 µm wide) with smallish warts, while the spores of *T. simulans* are larger (4-7 µm), sub-globose and with coarse warts. The hyphae (called capillitium) of the former have crystals while the latter do not but do have septa and moderately swollen joints. Their outer layer (exoperidium) is hyphal rather than membranous..

Spores, T. simulans

(Continued on page 4)

NAMA 2017 NORTHWOODS FORAY
SEPTEMBER 7-10
CABLE, WI

Organized by Britt Bunyard, editor of Fungi magazine, this event was held at Lakewoods Resort on Lake Namakagon, where the ululating cries of the Common Loon reverberated through the evening's stillness. The Northern Lights made a brief appearance one night. After some initial confusion, Peggy and I were settled into comfortable settings. Conditions were close to ideal, with rain prior and mostly fine although brisk weather throughout our stay, providing a great number and variety of fungi. Unlike the dry forests which are the rule here on Long Island, there seemed to be water everywhere in the form of lakes, streams and bogs, but thankfully no mosquitoes or other bothersome insects.

The Collecting Tents: foragers deposit their finds.

As is the rule at these events, the days were fully packed with lectures, classes, and forays so that choosing between them was always a perplexing but pleasant task. If one had sufficient energy left at the end of the day, the evening socials afforded the opportunity to meet old friends and make new acquaintances. And with attendance in excess of 350, there was certainly much opportunity to do so.

Patrick Leacock of the Field Museum of Chicago served as Chief Mycologist, heading a stellar faculty which featured Greg Mueller, Michael Beug, and Nicholas Money, among the luminaries. (Check out Dr. Leacock's informative web site about Midwestern mushrooms at http://www.mycoguide.com/) Traditionally, evening

(Continued on page 7)

PRESIDENT'S MESSAGE

Mother Nature was not so accommodating in 2017. Many mushrooms were scarce or appeared at odd times. One example is the hen-of –the-woods which appeared almost a month ahead of schedule. Tricholomas were not plentiful and Black Trumpets were few and far between. Things should be interesting next year as we try to guess just what will show their little heads.

Just recently I read an article about a British biologist (Andy Marshall) who is trying to save trees in southern Tanzania. Part of his work is to cut vines that smother trees as they are growing. We see this right here on Long Island. Invasive species such as porcelain berries, ivy, not to mention wisteria and poison ivy as well as many others, are abundant in most of our parks and woods. They grow up the trunk of a tree and block the sun from reaching the trees' own leaves, causing their eventual death. You just have to drive along the Cross Island Parkway to see the damage done so far..I am mentioning this as sometimes I remember to bring my clippers on a foray to cut some of the vines I see. I encourage others to do the same. We need our trees!

Someone asked me if I buy mushrooms in the store. Of course I do! H Market and other specialty stores have different types that we don't find growing here, so why not?

This is the time of year that I thank you all for being a part of our club. Many thanks to our board members who strive to make LIMC better with new ideas and interesting foray spots to enjoy. (Special thanks to Maria, Ernie and Cathy S.)

May you all have a great 2018 and I hope to see many more of you along the trails.

EDITOR'S NOTE

As most of you are aware, LIMC has been contributing to citizen science by participating in the North American Mycoflora Project by donating fungal collections to the NY Botanical Garden Herbarium, as well as posting (and yearly updating) our species checklist to the Mycoportal site, the first club to have done so.

Consequently, our forays are not simply limited to collecting for the table, but also to amass collections for scientific purposes. And indeed our members have found new species for our checklist, and when deposited in the NYBG, the collector's name is entered along with the specimen, with which it is permanently associated and accessible on the web. I take this opportunity to thank all those whose sharp eyes and determination have contributed to this effort, including but not limited to the following: Anthony Sama, Aaron Norarevian, Roger Eklund, Maria Saffioti, Haylee Grote, Jacques Brochard, Michael Eipper and Askold Strat, and of course, Peggy.

Some of these species have been identified or confirmed by DNA sequencing, for which our budget is limited. Funding has been made available for registered clubs by the Mycoflora project, and we have every hope that our application will be approved, increasing our capacity to add to our mycoflora.

MATERIAL FOR THE SPRING 2018 EDITION SHOULD REACH THE EDITOR BY MARCH 1ST.

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

(All unsigned articles authored by editor.)

President: Peggy Horman
Vice-president: Jacques Brochard
Treasurer & Membership Secretary: Peggy Horman Tel: (631) 744-4965
owls2@optonline.net
Recording Secretary: Carol Capaldo
Foray Chairman: Jacques Brochard
Webmaster: Dale Robins
Science Adviser: Benjamin Wolfe, Asst. Prof., Dept. of Biology,Tufts University
Sporeprint Editor: Joel Horman (631)744-4965
e-mail: jlhorman@optonline.net
Editorial Ass't: Peggy Horman
Yahoo Group Coordinator: Maria Saffioti
msotolongo@optonline.net
Communications Officer: Richard Capaldo
Species Recorder: Roger Eklund
Board Members: Tony Mish

Far Afield: In the Catskills With the NY Mycological Society

Essay & photos by Ernesto Martinez

This year I joined the NY Mycological Society (NYMS) to add range and participate on forays outside of Long Island. (LIMC is still my first love, of course.) I joined a trip to the Catskills led by Paul Sadowski, the club secretary, at the Soyuzivka Heritage Center, a historical Ukrainian lodge, from Sept 22 to Sept 24. There nineteen NYMS members were housed in a lodge named Kylv, (pronounced like CAVE) a beautiful house that sleeps about 20 people in single and double rooms, and features a living room with a fireplace and a deck offering a magnificent view of the Catskills.

Omphalotus illudens

Dinner was in progress when I arrived, the spacious dining room, with seating for 300, being mostly empty except for our foray group. Dinner was buffet-style and included Polish sausage, prosciutto, a cheese assortment, pulled pork, veggie lasagna, salad, and dessert. Both old and new members like myself traded backgrounds and stories. Afterwards, on the short drive to the Kylv Lodge, I found the Chicken-fat Suillus *(Suillus americanus)* and a bouquet of Jack O'Lantern *(Omphalotus illudens)* on the extensive grounds. One of the attendees took the Jack O'Lanterns and reported that inside the closet, with no lights around, the bottom of the mushrooms luminesced green and orange.

At the lodge, one of the group members brought several bottles of wine, which we all shared while sitting on the deck watching an amazing, unpolluted view of a star-studded sky with shooting stars galore.

The next morning, after a hearty breakfast, we forayed the grounds where we found and identified many mushrooms, including honey mushrooms and two Hen-of-the-Woods, which were saved for the chef to prepare something special for dinner. Then we split into two groups and drove to nearby sites where we found more species of which the most abundant were Honey Mushrooms of which both groups collected bags and bags. Paul then led us all to a new unexplored site twenty minutes away. Here we were greeted by the magnificent spectacle of a huge crop of King Boletes *(Boletus edulis).* We spent several hours collecting them, and at first I took almost every one I saw, but after a while I collected only the best looking specimens. This was the first time I had ever found Boletes and to find so many really made my weekend. Intermingled with the Boletes were *Amanita muscaria*, which are often found in association with them.

Boletus edulis

Back at base camp we placed all our finds on outdoor tables for an identification session. Paul and several of the more knowledgeable members explained how to identify and clean, prepare and cook the edible mushrooms we found. (Photos below.)And speaking of cooking, it was soon time for dinner again, and the chef outdid himself: it was one of the best dinners I had in a very long time. Included were a sampler of wild mushrooms featuring chicken-fried Giant Puff-

ball, sautéed Black Trumpet and Hen-of-the-Woods, as well as a Ukrainian style mushroom crepe, Ukrainian Red Borscht soup, and other delicious specialties.

(The reader may notice that I provide more details of the cooking than the species identification, revealing myself as a mycophagist, but I promised myself to work on that. Although I was paying attention, I forgot to write down the names of all of the mushrooms we found, but I learned my lesson and I am going to be writing down everything from now on. I am also going to carry with me index cards to write down the names of identified mushrooms and place next to them when taking pictures.)

After breakfast the next morning, we returned to Bolete site, and after several hours were so loaded up that we decided to quit. After a four hour drive home I spent several more hours cleaning and preserving my finds: I had learned how to use my oven to dry my excess mushrooms but am hoping for a dehydrator for Christmas.

All in all, it was a great weekend—I met some really nice people and found my fill of edible mushrooms. Are you considering visiting or joining the NY Mycological Society? Tell them Ernesto sent you.

MUSHROOM DAY 2017 at PLANTING FIELDS ARBORETUM

The public peruses L.I. mushroom variety.

Some of our youngest members testing their I.D. skills

Visitor modeling hat dyed with mushrooms & knitted by Arleen Bessette. Background arrangement by Cathy Sama.

Explaining some I.D. points

FINDINGS AFIELD

Continued from p.1

Tulostoma berkeleyi

Tulostoma berkeleyi is the other species we found and these appeared more robust and darker in coloration, but this was due in part to its fresher condition; when found in an older and semi-dried state distinctive features are easily lost. But the original description does describe the spore sac as ochraceous and the stipe as reddish brown, striate above and "somewhat squamulose" which fits our specimens. As seen in the photos it does not have a tubular mouth, the spores escaping by way of a lacerate slit atop a somewhat elevated area. The spores are globose to oval, roughened with coarse warts, some reticulate. While the spore size is given as 4.5– 7.2 µm, ours were even larger, as long as 8 µm. Capillitium 5-9 µm wide, the septa with swollen "joints", some transverse.

Spores, T. berkeleyi

This is considered a southerly species, (as far as Puerto Rico) but a few collections in Mycoportal (Iowa and Nebraska) show it may be more widely distributed

Both these species, *Tulostoma simulans* and *Tulostoma berkeleyi* will be added to the LI checklist and the collections deposited in the NYBG herbarium.

DISTANT FORAY SUGGESTIONS

ALL CALIFORNIA CLUB FORAY MENDOCINO JAN 19-21 ALBION, CA

This foray is in Northern CA, at the Albion Field Station, which has motel quality lodging. The Chief Mycologist will be Dr. Michael Beug. The price of $200 includes lodging and all meals from Fri. evening through Sunday morning breakfast. Registration forms are available at http://bayareamushrooms.org/forays/sccf_2018.html
NAMA membership is required.

MUSHROOM FESTIVAL IN OAXACA MEXICO

JULY 17-24 2018

Held in the Sierra Norte Mountains in Pine forests at an altitude of 10,000 feet, the local Zapotec community celebrates together with tourists in a foray. This is followed by classes in mycology and cooking hongos (mushrooms) in typical local fashion. A dance festival, Guelaguetza, is next, and a Mezcal tasting immediately afterwards. The price is $1895 which include lodging and most meals.

When applying at www.crookedtrails.org mention offer code Myco2018 for $100 discount

GLEANINGS.. from the research literature

- **ZOMBIE ANTS:** The previously accepted explanation for the parasitic fungus' *Ophiocordyceps* control of the behavior of the ants it invades, forcing them to climb to the top of the vegetation, bite into the leaf, die , and then discharge spores from a stalk that grew from their head, was that it managed to invade and control the insect's brain. However, a new study that examined cell-level interactions between the fungus and its carpenter-ant host has revealed that rather than infect the brain, fungal cells were present throughout the body and controlled the muscles, "almost like a puppeteer pulls the strings to make a marionette move". It is hypothesized that the brain is kept intact so that the insect may live to perform its final biting behavior before it dies.. (*Three-dimensional visualization and a deep-learning model reveal complex fungal parasite networks in behaviorally manipulated ants. MA Frederickson et al, Proceedings Natl Acad Sciences USA, Vol114, no. 47, 12590-95.)*

- **SECRETS OF THE HONEY MUSHROOM:** *Armillaria* species worldwide attack more than 500 plant species, and reach immense size, as exemplified in the notorious "humongous fungus" of Oregon, arguably the largest organism on earth, estimated to occupy over 2,000 acres and weigh in at 600 tons. An analysis of the genomes of *A.ostoyae, A. cepistipes, A. gallica and A. solidipes* suggests that the secrets of their success is based on their expanded genome (over 20,000 genes), twice as large as their closest relatives. They underlie the development of rhizomorphs, dark mycelial strings, unique to *Armillaria,* that grow a meter per year and can extend several meters underground in search for new hosts, and are the main mode of infection. They appear to use the same growth genes as the fruit body and may be compared to stipes that have grown long and thin. The expanded genome has a full suite of plant wall degrading enzymes. *Armillaria* has the ability not only to pathogenize living trees but also to digest them after death. Their age is estimated at 21 million years (Myr) and their divergence from their neotropical ancestor, *Guyanagaster,* 42 Myr at a time of decreasing temperatures and the spread of deciduous forests in the Eocene. (*Genome expansion and lineage-specific genetic innovations in the forest pathogenic fungi Armil laria. György Sipos et al, Nature, ecology & evolution. Gyorgy Sipos et al, pub.online Oct 30 2017.)*

- **FUNGAL FRUITING PATTERNS:** This study utilized existing data compiled independently at several levels: local, intermediate and national, from the UK and Switzerland to evaluate whether they were correlated. Six ephemeral orders (Agaricales, Boletales, Geastrales, Gomphales, Phallales and Russulales) were considered to reduce bias, the total number of species was about 2800 in each country. The phenology (seasonality) was indeed similar across datasets, with most species expanding their fruiting season by earlier start dates, later end dates, or a combination of both. This suggests that local citizen science "presence-only" observations are valid for global change phenology research.. (*Congruency in fungal phenology patterns across dataset sources and scales. C. Andrew et al, Fungal Ecology 32 (2018) 9-17.)*

- **WOOD DECAY FUNGI HOST PREFERENCES:** The accepted scenario is that they exhibit low species diversity (average ~ 2 species or less per deadwood log) and are not specialized as to tree species, only to softwood and hardwood clades. This study sampled the deadwood itself, not fruiting bodies, and used DNA sequencing to investigate the "diversity, composition and distribution patterns in the early phase of decomposition (3 years) in 11 tree species." Freshly cut logs were randomly placed in forest habitat and molecularly sampled after three years. Results showed 22-42 fungal wood-dwelling species per log with the total number of species amounting to 1,254 of which 677 were Ascomycetes, and 539 Basidiomycetes compared to 97 species revealed in a previous study that counted fruit bodies. Moreover, there was a high degree of tree species preference, stronger in broadleaf than conifers; 41% of broadleaf species were considered "potential specialists" compared to 35% among coniferous species; with only 1% of the former being "generalists" and 16% of the latter. This data is said to show a tree species preference equal to or greater than that exhibited by symbiotic fungal communities. *(Molecular evidence strongly supports deadwood-inhabiting fungi eshibiting unexpected tree species preferences in temperate forests. W. Purahong et al, The ISME Journal (2017), 12 , 189-295.)*

(Compiled by editor from above-cited sources.)

FORAY RESULTS SUMMARY

PROSSER/CATHEDRAL PINES, SEPT 23:
A total of 39 species recorded by Roger Eklund included a good number of edibles: Boletes, Honeys, Black Trumpets and Chanterelles.


Amanita rhacopus

SOUTHAVEN, OCT 1: Switched from Bethpage, which was non-productive, we gathered 57 species, with Amanita predominating (11 species). *Amanita rhacopus,* nom prov., a member of section Caeasareae, was new to our list. Formerly mistakenly called *A. ceciliae*, a European species.

BROOKHAVEN S.P., OCT. 7:
Cancelled due to lack of fungi.

EDGEWOOD PRESERVE, OCT 14: Only 29 species, but more edibles, including 3 species of *Suillus,* and good amounts of *Leccinum*. The star of the day was *Leptonia subserrulata,* an uncommonly collected pink-spored species with midnight blue fringed gills, found by Anthony Sama. Identification was verified by Dr. Tim Baroni, who calls it one of his favorite species.


Leptonia subserrulata

PECONIC HILLS C.P. OCT. 21: Cancelled due to dry conditions.

ROCKY PT. STATE FOREST, OCT. 28:
(Previously a Preserve, the DEC has retitled this pine barrens area perhaps to emphasize that limited extraction such as mushroom and berry collection is permitted.) We had not visited this site for several years, but it proved productive when other similar habitats were not. Total species were 49, with good amounts of edibles: Leccinum, Suillus, Tricholoma portentosum, Grayling (*Cantharellula umbonata)* and Pine Spike *(Chroogomphus rutilus).* New to our list was *Russula nigricans,* found by Maria Saffioti. It is distinguished from the more locally common *R. dissimulans* by its wider spaced gills and smaller spores. Like its close relative, the flesh when cut turns red and then black.


Russula nigricans

PECONIC HILLS, NOV 4: Almost totally bare a mere two weeks prior, Peconic Hills burst into productivity after over 6 inches of rain fell from Oct. 25 through Oct. 31 in the Riverhead area. There were a total of 58 species, with enough Gypsies *(Cortinarius caperatus)* to fill everyone's larder. Also fair amounts of Leccinum and *Boletus appendiculatus* as well as goodly amount of our three common *Suillus: brevipes, granulatus* and *salmonicolor*. One possible new species *Entoloma brunneipes* has been forwarded to Tim Baroni for verification.


Entoloma brunneipes

EDGEWOOD PRESERVE, NOV 12: Following a freeze, production was beginning to wane, with only 50 species, still good for this time of year. Although the expected edible *Tricholomas* were present,*(equestre, niveipes and portentosum*) they were fewer in number. Suillus, of course, rarely disappoint at this time of year, but *S. grevillei,* usually abundant, was represented by only one specimen. However, there were a good number of Brick Tops. The veiled *Hygrophorus ponderatus,* the favorite of many, was also collected. The model plane field held many edible *Marasmius oreades* growing together with the toxic *Clitocybe dealbata,* so that their differences could be demonstrated. One *Hydnum albidum,* not frequently encountered, was collected.


Clitocybe dealbata

WELWYN, NOV. 18: At the season's traditional last foray, of 23 species collected, 18 were wood dwellers, including the attractive vinaceous purple Ascomycete *Ascocoryne cylichnium*. Diversity was low, Oysters notable only by their absence; but there were more than enough Brick Tops to satisfy our mycophagists, many remaining unmolested. All in all, a fitting conclusion to a good season.


Ascocoryne cylichnium

(All photos viewable on our website in full color.)

NAMA NORTHWOODS FORAY

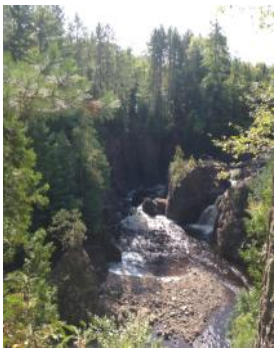
(Continued from page 1)

addresses are presented by these leading academics, firstly to acquaint the audience with the local habitat, and other varied mycological topics. Nick Money, prolific author and renowned researcher, departed from the usual, offering a performance piece entitled "The Meaning of Life in Ten Mushrooms", an academic standup routine in which his florid iconoclasm that left no idols unattacked had the audience rollicking with constant laughter. Michael Beug related how his cosmic experience with Psilocybe had altered his personality beneficially while exhorting us not to attempt a similar conversion.

Ursula Pohl, 2nd from rt. Peggy left.

The classes and lectures were varied, ranging from those suitable for beginners to more advanced topics such as microphotography and DNA sequencing. Mycophagists were not neglected, with presentations on home mushroom cultivation, fermentology (cheese making), and mushroom preservation techniques. We all delighted in not one but two mycophagy events, admirably conducted by Ursula Pohl, who received a much deserved award for her thirty years of service.

One of the pleasures of travel is the visual refreshment afforded by new vistas, and far off forays offer the opportunity to see new species that are absent in our home environment. There were many such here, inasmuch as the total species collected was in excess of 550, a new NAMA record. (The exact number and identities are presently unknown, as they have not as yet been posted to the Mushroom Observer website as promised, a perennial problem.) To name a few: *Laetiporus huroniensis*, identical in appearance to our *L. sulphureus* (Chicken Mushroom) but only on Hemlock in the Great Lakes area; another polypore *Phellinus bakeri,* mostly mid-Western but also in the East. Species rare or interesting enough for the collector to receive a prize for were: *Postia tychogaster,* a wide-spread northerly polypore; and *Neocudoniella radicella,* a minute translucent ascomycete.



Copper Falls S.P., one of the foray sites.

***Tricholoma magnivelere* collection**

We had arrived a few days before to play the tourist and explore the unfamiliar terrain, and found a cornucopia of parks and natural areas. We also extended our stay a few days beyond the foray, traveling to the shores of Lake Superior. In one of the last parks we visited, Amnicon Falls S.P., we came across a mushroom species which was not collected during the foray: *Tricholoma magnivelere,* the American Matsutake, which we carried home and part of which we consumed in a miso broth with seaweed and shrimp. The remainder is at home in our freezer, for a future treat.

Next year's NAMA annual foray will be held at the Macleay Conference & Retreat Center in Salem, Oregon, October 11-14, 2018. Will we see you there?

WELCOME, NEW MEMBERS!

Peter Akras JiLi & Lisa Chen Jieun & Won Choe Christopher & Bettina Croce Ke Lin & Taotao Dai Vivian Dai Christopher Frank Alex Elbert & Yelena Gimelfarb Inna Pashina & Yuriy Gladkov Haylee & David Grote Karl Hoenzsch Meagan Bartow & Robin Hoffmeister Jane Karetny Deborah Klein Scott Meyers Daniel Migliorino Cody Lichte & Sharon O'malley Gosia Onufrik Saverio Pispisa Andrea Barraca & Stefan Rosen Martin & Deborah Rost Stacey Shapiro Preston Totesau-Johnson PoCheng Lai & Eleanor Yeh

IN THIS ISSUE

"Many of these creatures so low in the scale of nature are most exquisite in their forms and rich colours."

Charles Darwin... Beagle Diary, Jan 1832

LONG ISLAND MYCOLOGICAL CLUB
11 RAMBLEWOOD RD.
RIDGE, NY 11961

IF DUE, A MEMBERSHIP RENEWAL FORM IS ENCLOSED

Kindly respond before Jan. 31