LONG ISLAND MYCOLOGICAL CLUB

http://limyco.org

L.I. SPOREPRINT

Happy New Year!

1973-2019

Available in full color on our website

VOLUME 27, NUMBER 4. WINTER, 2019

FINDING AFIELD

Fungal crusts, poor relatives of charismatic macrofungi, lack the presence of elegant Mycenas or the baroque architecture of Amanitas, and are consequently given short shrift by most collectors.

Phlebiopsis gigantea

But their enigmatic appearance and difficulty of identification has an attraction of its own, and after attending Tom Bruns' crust workshop at NEMF, I thought I would give the above pictured species a try. It was found on Nov. 26, 2019 in a section of the Rocky Pt. State Forest called "The Demonstration Forest" where Pitch Pines are being thinned to combat the Southern Pine Beetle invasion. This crust proliferately covered the cut ends of almost all of the felled logs; I later discovered the explanation for this.

In appearance, the sample was a tuberculate, ceraceous (waxy) white to buff resupinate, developing fine hairs or teeth. To obtain a sporeprint, I covered the specimen with a moist paper towel and placed it over a microscope slide; I was rewarded with a

(Continued on page 7)

NAMA 2019 FORAY
PAUL SMITH'S COLLEGE
August 8-11

This was the second NAMA annual foray at this site, the previous one having been held in 1991. Situated in scenic Adirondack Park, a wide variety of habitats were available for foraging, including lowland spruce-fir forest, montane mixed forest, northern hardwood forest, hemlock forest, and forested wetlands. Because these

View of Lower St. Regis Lake from the dining room veranda

are radically different from our Long Island environment, we expected to see many unfamiliar species, but these were in the minority, although transecting these boggy environments was a lively experience.

A species total of 356 taxa was respectable, in the middle range compared to other NAMA forays. Basidiomycetes led with 258 species dominated by 15 of Amanita, 14 of Russula, and 9 Lactarius. The list includes 30 species of Lichens. Species new to us were *Spathularia flavida* (Yellow Earth Tongue) and *Spathulariopsis velutipes,* the latter a Hemlock associate, which we have few of. Others were *Bogbodia (Hypholoma) uda*— the only species in this genus; *Protostropharia alcis,* a *Stropharia semiglobata* look-alike, but said to grow on Moose dung. Yes, they are here, and no, we never saw any. Another look-alike is *Amanita subalbiacea,* very much like the deadly *A. bisporigera,* but distinguished by its garlic odor and narrower spores. The local chanterelle collected here is *Cantharellus enelensis,* only recently described from Newfoundland, and confined thus far to Northeast NA.

After joining a Friday morning foray, where the picking was lackluster, we elected to attend lectures for the rest of the foray.

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PRESIDENT'S MESSAGE

Greetings to all my mushroom friends. In my view, this was not a great year for mushroom. Either it was too hot or too dry. However, the last two forays were the best ever. The Edgewood hunt brought out a record number of participants (31) and everyone was in a good mood at the end. It was so nice to see so many friendly people.

At this time of year I would like to thank our Board members for helping so much. Gratitude to Rich Capaldo (and Carol too) for taking on as Communications Officer. This takes a load off Joel who did this task in the past. Of course Carol does a wonderful job as Recording Secretary. Maria's Facebook looks better and better. Dale does a great job with our page. Roger keeps our species list when Joel is not able to and is a great identifier as is Jacques who also plans our forays. Tony lets us know where there are and are not mushrooms. Most of all I want to thank Joel for spending so much time and research for our newsletter. He does it all. Off course thanks to all our members for making this such a friendly club and especially those who give up Saturday mornings. I do hope we get more members to participate in the future.

If you think you can help out by being a member of the Board in any way please let Joel or me know. Every little bit helps!

Since it is quiet time for mushrooms, how about brushing up on your mushroom knowledge by studying fungi books and websites? It's a nice pastime.

I wish you all happy holidays and a peaceful and healthy 2020.

See you along the trails next year.

EDITOR'S NOTE

Was this a season like any other, or apart from diminished rainfall at crucial times, was it a harbinger of changes brought about by global warming? Evidence has already demonstrated that earlier Spring fruiting as well as later Autumn fruiting of mushrooms has taken place, as a result of both earlier soil warming and then later autumnal expansion of warming.

We certainly experienced some of this last year, with several of our sites failing to produce on schedule but unexpectedly returning to production several weeks afterwards. For example, our first pine barrens foray is normally held the first week of July in Heckscher S.P., and was held with fair results. However, that site unexpectedly improved so that two additional forays were held here the second and last weeks in August, with almost 70 species found on the first occasion.

Likewise, our Peconic Hills foray, scheduled for Oct. 19 was held elsewhere due to a complete lack of fungi there. However, it returned to production and a successful foray held on Nov.2. The same occurred at Edgewood Preserve, with the scheduled foray of Nov. 9 shifted to Nov. 23, with satisfactory results.

Happenstance? Or global warming? I look forward to see what next year's season will bring.

Happy New Year to All.

MATERIAL FOR THE SPRING 2020 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.)

NAMA 2019 ***(Continued from page 1)***

They were all enticing, and the difficulty was choosing between them. I elected to attend Ethan Crenson's class on Pyrenomycetes, sometimes disparagingly referred to as "dots on sticks" but interesting in their own right for their complex structures and challenging identification. My knowledge of these groups and their identification was greatly enhanced by this lecture. The NYMS ventures out throughout the winter searching for them, so if you're overcome by cabin fever this season, give it a try and post your photos on our Facebook page. [The publisher Elsevier provides an open access key on the website https://www.studiesinmycology.org/ On the home page, click on "issues", then enter "No. 64" in the search box on the upper right. Issue 64 will then be accessible, and you then click on the heading (halfway down the page) "A molecular phylogenetic reappraisal of the Hysteriaceae,etc…with keys to world species", and then download the article via Adobe Acrobat.]

The NAMA after-dinner talks are usually presented in an auditorium and attended by all. Roy Halling, the Chief Mycologist, related the history of his studies under the mentorship of Harry Thiers, who set him the task of unraveling the taxonomy of Collybia, for which he is now internationally known. (His keys to Collybia may be found on the NYBG at https://www.nybg.org/bsci/res/col/colintro.html) After completing this research, he returned to his first love, the Boleteaceae, which explorations have taken him to Central America and Australia. This research has resulted in major revisions of this group, and a many of these papers are accessible on the NYBG website.

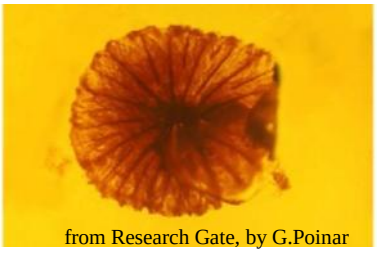
Roy Halling expounds on the Boletaceae

Saturday's lectures included, among a total of ten, a workshop on chemical reagents presented by John Plischke III, a Lichen workshop, a Hericium culture workshop, and a talk by Walt Sturgeon on Appalachian fungi. I attended Tom Horton's talk on the spread of Suillus and Rhizopogon in the Southern Hemisphere, where native pines do not occur south of Nicaragua, along with introduced pine plantings. Apparently the major dispersal of their spores are mammalian species such as deer (rather than wind) whose droppings contain both Suillus and Rhizopogon spores. In areas where no native deer occur, there is little invasion from pine plantations to native tree stands of Nothofagus.

Roz Lowen, a well-known ascomycete expert, spoke about the "interesting" species that have caused the loss of many native species of trees (Ash, Elm) and that are now attacking Birch, e.g., *Neonectria faginata* and relatives. Others are now attacking us in our homes, principally *Stachybotrys* which produces mycotoxins causing breathing problems, infections, and poisonous effects. We learned that there exist lichenicolous fungi that are parasitic upon lichens and that there are presently 1800 known species. Further information may be accessed at www.lichenicolous.net

Tim Baroni's lecture addressed mushroom hunting in the Northeastern NA, and some of the rarer species that might be found. He himself is an inveterate collector with over 7000 collections in various fungaria. One species that he described as very rare and confined to the New Jersey Pine barrens, *Calliderma indigofera*, was recently found by Roger Eklund on our picnic day foray September 14 at Southaven CP, and its identification verified by Prof. Baroni via email; a sample of the specimen has been sent to him for further study.

One of the more fascinating lectures was presented by Elinoar Shavit, an expert on *Terfezia,* the desert truffle, who is also a gemologist. The topic of her talk was "Fossilized mushrooms in Amber and Copal.." Most of us are aware that amber is ancient pine resin that has become fossilized and may contain well preserved life forms millions of years old. Copal is younger resin that has not been fully polymerized and is probably less than 100,000 years of age. Elinoar has collected such mushroom fossils from Mexico and Columbia and by "louping" amber displayed at the annual international gem, mineral and fossil mega-show in Tucson. Such fossils, displaying modern mushroom features such as gills and stipe, have been found that are twenty million years old; her collection requires further study to be completely described and dated. Interestingly, Dominican amber this old has revealed what may be a "Paleo-morel" and a tick carrying the spirochete cells of Borrelia, the cause of Lyme disease. To further pursue this topic access the lead articles in Fungi magazine by Shavit and Britt Bunyard at: http://



from Research Gate, by G.Poinar

***Coprinites dominicana*, 20 MYA**

(Continued on page 4)

From Our Members & the Public

***Laetiporus sulphureus* 40 ft up**
by Andy Greller

A pristine Blewit
by Jim Lampert

Brick-Caps
by a member of the public

Nolanea species
by Roger Eklund

Radulomyces species
by Andrea Rosen

Armillaria mellea
by Robert Pilosov

Amanita muscaria
by Ashley & Chris Ott

Pale Blewits
by Tony Mish

Hebeloma insigne
by Cecily Franklin PA

NAMA 2019 ***(Continued from page 3)***

www.fungimag.com/archives/v11n5_spring-2019.htm

The final evening presentation featured Gavin McIntyre, a director of Ecovative Design, a company using mycelia to produce alternative environmentally friendly products. These include packaging material, textiles that are a leather substitute, spa slippers, a foam alternative makeup applicator, all of which are compostable. Innovative applications like these lead one to think that Paul Stamets may be on the right track when he claims that mushrooms will save the world.

The greatly anticipated mycophagy session under the capable hand of Ursula Pohl did not disappoint as foragers lined up for second and third helpings. Ursula received a special NAMA award in recognition of her many years of dedicated service. The 2019 Gary Lincoff Award for Contributions to Amateur Mycology went to Else Vellinga, world expert in the lepiotaceous fungi who generously shares her knowledge with the amateur community, responding to email inquiries and officiating at NAMA and NEMF forays.

The NAMA 2020 Foray will be held at the Trout Lodge Resort in Potosi, MO on Oct.8-11, which is located one hour from Lambert International Airport in St.Louis. Vans from the lodge will provide transport from the airport for a “reasonable fee”. Further details will be provided in this newsletter as they become available.

MUSHROOM DAY 2019 at Planting Fields Arboretum

LIMC MEMBERS ASSEMBLED

Is a puzzlement!

Signing up.

Look at that!

NOTABLE QUOTES

"The obvious benefits of city life and modern technology cannot, in the end, compensate us for the loss of something mysterious that physical contact with nature alone seems to supply. Perhaps we are so strongly drawn to the natural world because it is, in some deep sense, our real home—and we long to return to it.

Nature can be overpowering and sublime. Think of the ancient layered cliffs that tower above the Grand Canyon, the dazzling array of stars in a dark night sky, o the endless vistas of the open ocean. The grandeur of such spectacles offers a silent rebuff to our cheeky self-importance. But little thing can touch us just as deeply: the sharp dips and turns of a swallow hunting furiously for insects to fuel its long autumn journey; a dung beetle trundling its ball across the hills of Provence; a turtle diligently laying her eggs on a tropical beach; the green-glowing trail of a billion plankton sparkling in the wake of a ship as it sails through the night; or millions of small brown moths setting their course by the magnetic field that envelops the earth.

...The sense of awe we feel in the presence of nature is a mysterious force. At one time it was taken as a sure sign of a divine presence. We may no longer believe in gods, but if we are to flourish, we must learn to respect and care for the world we inhabit and the extraordinary creatures with which we share it...."

From "SUPERNAVIGATORS: EXPLORING THE WONDERS OF HOW ANIMALS FIND THEIR WAY" by David Barrie 2019 The Experiment, LLC

FORAY RESULTS SUMMARY

(FOUR SCHEDULED FORAYS FROM SEPT. 21 THROUGH OCT. 12 WERE CANCELLED DUE TO MEAGER RAINFALL IN JULY, AUGUST AND SEPT. AVERAGEING ONLY 2 INCHES EACH.)

CRANBERRY BOG PRESERVE, OCT. 19: A respectable total of 55 species were collected, Cortinarius dominant with 7 species, followed by Tricholoma with 6. The impressively statured *Cortinarius pseudorubricosus*, rare even in its native Scandinavian habitat, was found here for the second time. *Mycena subsupina,* found by Peggy, is new to our checklist. Edibles were few, three species of Suillus and a few Leccinum.

Cortinarius pseudorubricosus

SARNOFF PRESERVE, OCT. 26: This was our first Dom Laudato Memorial Walk, in memory of our past president, and was very productive, despite the competition from local collectors. This time, edibles were plentiful and included *Leccinum vulpinum*, 3 edible species of Tricholoma, 2 of Suillus, as well as Gypsies, Blewits, and Brickcaps. A young specimen of *Amanita muscaria var. flavivolvata*, (left) seldom encountered here, was a glorious sight. Total species: 58.

PECONIC HILLS C.P, & CRANBERRY BOG, NOV. 2: These areas were unproductive at their scheduled foray date of Oct.19, but luckily produced late in the season. Sixty-seven species were collected, Tricholomas again in dominance with a dozen species,(3 edible) followed by 8 species of Cortinarius including some *C. caperatus* (Gypsies). Other edibles included Brick-Caps, Lion"s Mane *(Hericium erinaceus), Boletus projectellus,* etc. There were two species not previously collected, *Rhodocollybia prolixa var. distorta* and *Melanoleuca microspora*. If you were present and collected the former (pictured above) or know who did, kindly let me know so that they can get credit as collector with the NYBG. It seems to be common throughout Europe and widely collected in NE North America. *Melanoleuca microspora* (photo right) on the other hand, is found mostly in the West, from Alaska to Colorado; there is only one specimen from the East in Mycoportal, collected by Tim Baroni in Hamilton, NY. If confirmed, this will be only the second collection from eastern N.A.

WELWYN PRESERVE, NOV 16: Traditionally the final foray of the season, conducted in a site with much fallen timber. True to form, all of the 21 species collected were wood dwellers, polypores, asco's, slime molds, and gilled species that included *Mycena maculata, Lentinellus ursinus* (The Bear), and a few *Panellus* (*Sarcomyxa) serotinus,* the Autumn Oyster. Luckily, Brickcaps were in abundance, providing the only edible. A tiny Galerina found by Peggy (photo right) appears close to *G. nana* and will be submitted for DNA analysis.

EDGEWOOD PRESERVE, NOV. 23: Originally scheduled for Nov. 9, it was cancelled due to very limited production. But after Maria and Roger reported good foraging results, Jacques called a Flash Foray, and 31 members showed up to participate. They were not disappointed. All the edible Tricholomas (*T.equestre, portentosum, niveipes*) were present in good quantities. Other edibles collected were *Hygrophorus hypothejus, H. amygdalinus, and H. ponderatus.* Most species of Laccaria are believed edible, and the predominant one present was *L. longipes,* despite the fact that *L. proxima* is the species most often associated with our pine barrens. Also collected (by Anthony) were some brilliant orange *Hygrophorus speciosus,* uncommon here. *Russula adusta,* (right) one of the blackening Russulas, found by Haylee, is new to our checklist. It is characterized by unique cheilocystidea with a finger-like projection.

GLEANINGS.. from the research literature

■**SOIL FUNGUS FUELS TREE GROWTH:** The microfungus *Mortierella elongata* can live in the soil as as saprophyte, living off organic matter, or as an endophyte, living between a plant's root cells. An international team of researchers found that the introduction of this species into *Populus trichocarpa* (Black Poplar) resulted in 30% increased growth. To accomplish this, the fungus decreased the expression of Poplar genes associated with plant defense and caused the Poplar to develop leakier cell walls. Other changes were increased growth hormones, nutrient uptake, and lipid detection. (*Fungal Endophytes of Populus trichocarpa Alter Host Phenotype, Gene Expression, and Rhizobiome Composition. Hui-Ling Liao et al, Molecular Plant-Microbe Interactions, Vol. 32, No. 7, July 2019.)*

■ **HOW TO DOMESTICATE PENICILLIUM:** Our club's science advisor, Benjamin Wolfe, was the lead researcher of this study, carried out partly in "cheese caves" in Vermont, which demonstrated that the nutrient rich cheese environment can rapidly influence changes in the phenotype of *Penicillium spp.* Within 4 weeks, it changed from a green-blue, malodorous colony to a white, pleasantly scented one with cheesy, fruity and creamy aromas. There was also decreased spore, pigment and mycotoxin production. Although genomic alterations were noted, these were not such as could be associated with these observed changes, which are thought to be influenced by "transgenerational epigenetic inheritance:". The authors believe that "new strains of Penicillium for cheese production could be generated through intentional and controlled domestication processes." (*Rapid Phenotypic and Metabolomic Domestication of Wild Penicillium Molds on Cheese. Benjamin E Wolfe et al, mBio, Sep/Oct 2019, Vol 10, Issue 5.)*

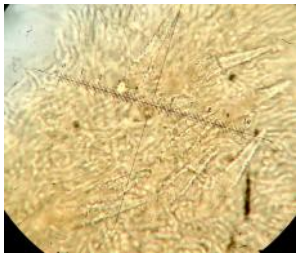
■ **REPTILES DISPERSE FUNGI:** We have all probably seen photos of turtles munching on mushrooms and considered it an amusing oddity. However, this review article makes it clear that such consumption has been documented as widespread among many (32) species of turtles, and that this is an effective method of spore dispersal. (Fungal spores remain viable after passing through the digestive tracts of vertebrates.)Other reptiles that consume mushrooms include lizards and skinks, although documentation is sparse. Snakes are likely to be secondary dispersers by eating other organisms, such as mice and voles, that have eaten fungi. Dispersal by both mammals and reptiles greatly increases the dispersal distance of gilled fungi, most of whose spores fall within a few meters of the fruiting body. In the distant past, herbivorous dinosaurs have consumed fungi, as fossilized spores have been found in their coprolites, though they may have been incidentally consumed along with plant material. Interestingly, turtles may be immune to fungal toxins, although their flesh is capable of poisoning organisms that consume them, including humans. *(Reptilian Mycophagy: A global review of mutually beneficial associations between reptiles and macrofungi. TF Elliott et al, Mycosphere 10(1): 15 Nov. 2019, 776-797)*

(Compiled by editor from above-cited sources.)

Findings Afield

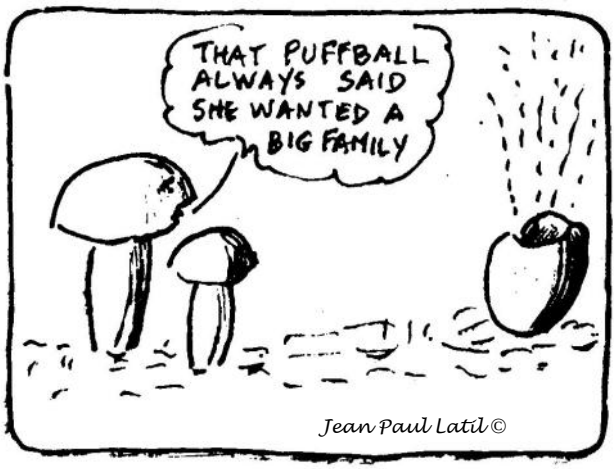
(Continued from page 1)

copious white sporeprint. Under the microscope, these spores were ellipsoid, measuring 5-7 X 3-5 µm. Further microscopy of the tissues showed an absence of clamp connections. Unique thick walled, heavily crystal encrusted cystidea called lamprocystidea (photo right) were numerous. It is these structures that form the "hairs" visible with a 20X loupe.



P. gigantea is widespread, known from all of NA, Britain, Europe, as well as Australia. Strangely, there is only one collection from Long Island, collected by the naturalist Roy Latham in Greenport in August of 1959 and listed as *Thelephora fimbriata.* A close relative, *Phlebiopsis ravenelii* grows only on deciduous wood.

P. gigantea is widely used as a biocontrol agent against *Heterobasidium annosum*, an aggressive pathogen of that is responsible for the annual loss of a billion dollars of timber. *P. gigantea* outcompetes it and prevents it from establishing a foothold. Consequently, foresters coat their sawblades with its spores or conidea, which is the reason it was so prolific everywhere in the Rocky Pt Forest.



IN THIS ISSUE

For those inclined to hunt mushrooms, their unpredictable appearance and short half -life only amplify the thrill of discovery.

Linnaea Ostroff Science, Vol. 335, 30 March 2012

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IF DUE, A MEMBERSHIP RENEWAL FORM IS ENCLOSED
KINDLY RESPOND BY JAN. 31