



# L.I. SPOREPRINT

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## FINDINGS AFIELD

Is it merely a coincidence that subsequent to the publication of a new book on *Amanita*, that we came across three previously unrecorded species of that genus on Long Island? Yes and no. (See Book Review, p.5)

Two of these were found in Southaven County Park on July 15 by Peggy, *Amanita rooseveltensis* nom. prov. Tulloss,

Kudzma & Wasilewski and *Amanita elliptosperma*. The former is an *A. vaginata* look-alike but with a different spore measurement.



*A. rooseveltensis* has a subglobose spore while *A. rooseveltensis* has ellipsoid to broadly ellipsoid spores. And of course there are DNA differences, but no clues to its identity in the field. Interestingly, Peggy had previously collected it during the NEMF 2019 Foray in Lock Haven, for which she received a prize from Rod Tulloss himself.

The second find although also in Southaven, was under White Pine rather than Oak where *A. rooseveltensis* was found. *A. elliptosperma* is a member of the Phalloidiae, closely resembles the Destroying Angel *Amanita bisporigera*, and like it should be considered deadly poisonous. Al-

*(Continued on page 4)*

## N.A. MYCOFLORA PROJECT IS NOW FUNGAL DIVERSITY SURVEY (FunDis)



The original title reflected the early 20th century publication by the New York Botanical Garden of “North American Flora”, a 32 volume series, of which volumes 2 to 10 dealt with fungi, and whose keys and descriptions remain useful today. Since the term “mycoflora” has gone out of fashion for its reliance on a term reflecting the discarded theory that fungi belong in the plant kingdom, the projects’ title has been changed to “Fungal Diversity Survey” or FunDis for short, which may have its own shortcomings. There is unfortunately, a pre-existing “fundis” online entity, financial in nature, which pops up if you google that term alone. So be sure to enter “fundis.org” in the URL box.

However, the changes are more than skin deep. The thinking seems to be that many prospective amateur mushroom lovers are intimidated by what is perceived to be excessively stringent demands upon contributors, and that what is a four-tier system with level 1 consisting of a “large base of citizen scientists doing basic field photo-documentation of fungi.” These observations are to be



Map of 177 FunDis Projects

posted to a public database, e.g., I Naturalist, along with geo-references and other metadata such as habitat, substrate, odor and taste, etc. Lab metadata such as chemical tests and microphotos are additional options. Inasmuch as few contributors are providing such a level of detail now, it is hard to imagine that this is much of a re-

*(Continued on page 4)*

## PRESIDENT'S MESSAGE

This has been an awful year so far for so many reasons. We've had very high temperatures, lack of rain, Covid-19 that keeps us all apart and consequently no forays. In addition, no picnic or Mushroom Day. I am hopeful that things will improve and we'll get nice days and some much needed rain soon. Covid-19 I'm not so sure of. Anyway, there is always next year.

Joel and I are always out and about taking a walk and, of course, looking down. There were some Boletes, Inocybes, Laccaria and Amanitas and others but not in great abundance this summer. Cathy and Bob Cresko reported mushrooms everywhere in the Adirondacks and I wish they could have gathered them all for us; they also found a giant Grifola. I know some of us have found them recently. They seem to grow even

though there is not much moisture.

If you have not looked at our PRIVATE-Facebook page, you are doing yourself a disservice. Members have been posting their finds and comments which is most interesting. Best of all, are the pictures. Some pictures are so beautiful that they could be on a poster. You will also find some of the newer name changes. I still use the old species names at times— old habits are hard to break. Speaking of changes, we have posted the Bessette's corrections and updated species names to their "Boletes of Northeastern NA" on our website. (I found one mistake: the top line on page 3 should read "retain the name *S. grevillei* for (A) on p. 324"

So time passes. Stay safe. I miss you all.  
Next year we will meet along the trails.

## EDITOR'S NOTE

Both NAMA and NEMF are hopeful that by next year, we will have reached the point where it will be deemed safe to hold their annual forays. Considering the fact that the drought that we have been experiencing on Long Island is being felt in much of the Northeast, this year's forays are probably best having been cancelled, although for the unfortunate reason of Covid-19. Our Mushroom Day event at Planting Fields, which was also cancelled, would have been scheduled for about this time mid-October, and we would have been hard put to gather enough material for this event.

The NEMF annual foray that had been scheduled for 2020 is scheduled to be held in September

2021 in Joliette, Quebec but it is uncertain whether NAMA 2021 will be held in Potosi, MO as originally thought.

Despite our drought, which is especially severe on the East End, where rainfall averaged from 4" to 12" below the yearly normal but was especially spotty, with a few spots as much as 16" below according to NOAA. Nevertheless, our intrepid foragers managed to not return empty-handed, and their harvests can be viewed on pages 3 and 6, including several new finds. Amanitas especially seem to prosper despite drought, making this a good species to develop an interest in.



**MATERIAL FOR THE WINTER EDITION SHOULD REACH THE EDITOR BY  
DECEMBER 1ST.**

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

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(All unsigned articles authored by editor.)

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## MEMBERS' COLLECTING REPORTS

In the absence of our customary foray reports, we list here reportage from our membership on their individual efforts, mostly as entered on our Long Island Mushroom group Facebook page. If you have not as yet signed up for the group, we recommend you do, so as to be able to follow the season's progress more closely, and to base your own efforts on developments in real time. (We know that many of you have real concerns about privacy issues, but if you provide few personal details and opt not to receive Facebook notices, as I have, it is not overly intrusive.)

Despite less than 2 inches of rain in May, those that ventured to our usual Spring Oyster (*Pleurotus populinus*) spot in May were well rewarded by copious harvests, and they showed up in several other Poplar groves as well. Also encountered were *Stropharia rugosoannulata* (Wine Caps), *Polyporus* (now *Cerioporus*) squamosus (Dryad's Saddle) and various *Agrocybes*.

By June there were some reports of *Laetiporus cincinnatus* and many of



**Andrea & friend.**

cap *Humidicutis marginata* var. *olivacea*, new to Long Island, which will be added to our checklist.

August brought additional bolete species as well as widespread reports of the toxic *Chlorophyllum molybdites*. *Amanitas* were abundant, for those who fancy them, despite reduced rainfall, particularly on the East End. By early September, *Armillaria tabescens* had made an appearance, and there was a brief appearance of Black Trumpets (*Craterellus fallax*) as well as *Leccinum vulpinum* in a few spots. Towards the end of the month there were reports of *Armillaria mellea* and the first sighting of *Grifola*.



*Humidicutis marginatus*

## PAUL TOMKO



**AUGUST 6, 1953—JULY 30, 2020**

We are saddened to report the passing of Paul Tomko, one of our most active and popular members, after a gallant battle with Multiple Myeloma. Despite years of struggle he remained uncomplaining, cheerful and positive, a good companion.

Paul was for us the voice of Edgewood Oak Brush Plains State Forest, alerting us to the fruiting times of various edible species, particularly *Lecaninum vulpinum*, *Coprinus comatus*, and *Agaricus crocodillinus*. It was thanks to his keen observations that we became aware of the potential of this site for spring harvests of *Pleurotus populinus*, the esteemed Spring Oyster.

At an April 2017 foray he collected what turned out to be a new species, *Chromosera lilacifolia*, which now resides in the NYBG fungarium, and he will be listed as one of the authors when the journal article is published.

Paul was vice president of the Friends of Oak Brush Preserve, which he formed together with his wife Mary Beth. This organization influenced the NYS DEC to make many improvements, including blocking access to illegal ATV's, trail enhancements, etc., which we continue to benefit from.

In addition to his wife, MaryBeth, he is survived by four children and five grandchildren.

The Edgewood foray is to be renamed in his memory. He will be missed by all who knew him.

CORRECTIONS TO  
"BOLETES OF EASTERN N.A."

Thanks to Nick Sarin for posting Arleen Besette's corrections to our Facebook page. It is now available on our website [limyco.org](http://limyco.org), and can be accessed by clicking on the "Identification Aids" tab on the left.



***Fungal Diversity Survey*** (Continued from page 1)

lief from the “stringent demands’ that are now said to exist. Nevertheless, the hope is to achieve observational numbers comparable to the crowd-sourced Ebird app, which receives 100 million observations per year. This is unlikely. If we compare the number of mushroomers who belong to clubs nationwide, it is but a small fraction of birders who are members of the National Audubon Society: 600,000, while 60 million US birdwatchers is the Fish & Wildlife Service estimate. The inescapable fact is that birding is widely popular, while mushroom study, despite recent growth, remains a fringe activity.

Level 2 would consist of contributors who obtain DNA sequences from a lab and interpret the results to obtain a species name. Level 3 participants preserve dried specimens and deposit them in fungaria. (Herbaria is now a deprecated term) Level 4 consists of “super users” who sequence DNA in home labs, edit the results, build phylogenetic trees, and instruct others in these procedures. The hope is to achieve 100,000 level 1 participants, mostly from young people. This is ambitious.

Other proposed changes are a greater focus on conservation of fungi, and making low cost, high volume sequencing accessible to all. Previously sequencing was carried out both by home labs and several academic centers, with less than optimal results. (Judging from LIMC’s experience, failure rate was high.) Accordingly, sequencing has been halted while a new partner is being tested: BOLD, the Barcode of Life Data System, based at the Center for Biodiversity Genomics at the University of Guelph, Ontario. They have shown the ability to process high volume

at low cost and also offer improved GenBank submission.

Presently, registered FunDis projects can purchase sequencing services at \$15 each. A new set of grants will be made available to existing projects, and LIMC has applied. However, the new protocol now utilizes only iNaturalist and Mushroom Observer, Mycoportal having been dropped. Since this was the online website which we used, some revision will be required to continue to participate.

FunDis receives funding from several sources, e.g. the National Science Foundation, NAMA, MSA, but is run primarily by volunteers, both professionals and lay persons. Thus far, 5,000 specimens have been sequenced, including some rare and undescribed species. It is unclear how many have been deposited in fungaria. The BOLD project is just getting underway, so if you are curious regarding the results of individual projects (such as our Mycoflora of Long Island) they may be found at <https://mycomap.com/>

To learn more about this project access <https://fundis.org> The site contains a free downloadable Phylogeny Poster which shows the evolutionary relationship Of 256 common species to each other; it is available under the “Shop” tab, which also sells such merchandise as FunDis T-shirts and tote bags to help support the organization, and can enable you to look ‘cool’ at the next foray.

***FINDINGS AFIELD*** (Continued from page 1)

though widespread, it is infrequently collected, no doubt being misidentified as *A. bisporigera*. However, its elliptic spore which averages 8-11 X 6-8, compared with the subglobose (8-9 X 7-8) spore of *A. bisporigera* reveals its true identity, as did its negative reaction to KOH.

*Amanita elliptosperma*

Lastly, we have *Amanita whetstoneae*, a member of the subgenus *Amidella* which has only a handful of members in North America, of which this species is the tallest. It also does not stain as readily as other *Amidellas*, but the cap does become tannish

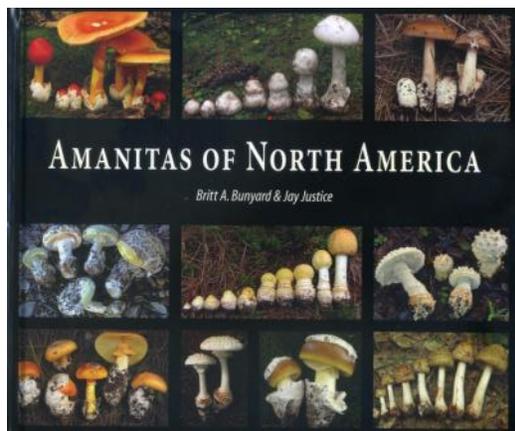
with age. It can be misidentified as *Amanita volvata*, which has a distinct ring when young, which *A. whetstoneae* does not. Its amyloid spore measures 9-11 X 5-6 and is elongate to cylindrical. It was collected twice, on 8-22 in Wildwood S.P. and on 8-26 in EP-CAL. Unlike the other two, which can be considered cryptic for their lack of identifying field marks, this species can be identified in the field with a bit of experience.

*A. whetstoneae*

They all have been preserved by drying and will eventually be donated to the NYBG fungarium. (Their offices are now closed due to Covid-19.)



## BOOK REVIEW CORNER

***Amanitas of North America***

by Britt A. Bunyard and Jay Justice

The FUNGI Press (2020)

340 pages 350 photographs

No genus of mushrooms is better known to the public at large, or has a more colorful as well as frightening history than the genus *Amanita*. (90% of mushroom related deaths are attributed to *Amanita* species.) Names such as “Death Cap” and “Destroying Angel” are well known to the layman, as well as the image of the “Alice in Wonderland” white-spotted crimson *Amanita muscaria*. These historical, cultural and mythical manifestations are dealt with at length in 40 of the 80 introductory sections, and *Amanita* taxonomists may wish to give it a skip.

The other 40 pages deal competently and clearly with such details as *Amanita* fruitbody development, evolution, taxonomy, toxicity, edibility and collecting advice. A key to the subgenera and sections of *Amanita* is provided, based initially on spore amyloidity, which is normally based on Melzer’s reagent, but any iodine solution should work. Only the section *Lepidella* is provided with its own key, so a reader attempting to identify a member of any other section must thumb through the photographic illustrations, which are full-page and magnificent, providing visual corroboration.

It should be noted that this book is in an unusual 8.5 by 10 inch format, being wider than high, which lend itself well to the photographic displays. About 120 species are described, the majority of which are found on the East Coast. Each species profile includes details of geographic range, ecology, morphology, toxicity and/or edibility. The only microscopic data offered is of spore amyloidity and measurements, but this is certainly enough for identification purposes.

Is every *Amanita* species thus far observed on

Long Island to be found in this book? The answer is no: some rarely encountered and provisionally named species (mostly by Rod Tulloss) are missing, e.g., *Amanita williamsiae* nom prov., *Amanita microlepis*, and Rod Tulloss’ provisionally numbered species such as *Amanita* sp-63. To answer the question on page 1 as to whether this book was useful in identifying several new to Long Island species, it definitely was in 2 out of three cases: *A. whetstoneae* and *A. elliptosperma*, but not *A. rooseveltensis*, which is only found on Rod Tulloss’ [amanitaceae.org](http://www.amanitaceae.org) site. This site is tremendously useful for budding amanitologists, the result of 40 years of intensive study by a world authority on the genus. Although it can be quite technical, I highly recommend, that members of LIMC, access the regional checklist for NJ, Long Island, and Eastern PA which hosts photos of all our *Amanitas* at <http://www.amanitaceae.org/?US+-+NJ+and+PA>

In order to use this illustrated checklist in order to identify an unknown, you must decide which subsection it belongs to, by using the authors’ key:

Key to sections of *Amanita*

1. Spores inamyloid. cap margin often striate when mature ... Subgenus *Amanita* ... 2
- 1 Spores amyloid, cap margin not striate when mature... Subgenus *Lepidella* ... 4
2. Stipe with bulbous base ... Section *Amanita*
2. Stipe without bulbous base; with saccate volva... 3
3. Ring on stem... Section *Caesareae*
3. No ring on stem ... Section *Vaginatae*
4. Margin of pileus appendiculate ... 5
4. Margin of pileus not appendiculate ... 6
5. Stem lacking robust saccate volva ... Section *Lepidella*
5. Stem with robust saccate volva ... Section *Amidella*
- 6 Stem with membranous, saccate to limbate volva... Section *Phalloideae*
6. Stem lacking membranous, saccate to limbate volva and may have marginate bulb... Section *Validae*

This publication is not available on Amazon and can be purchased only (for \$50 including shipping) on the Fungi magazine website: <https://www.fungimag.com/store.htm>



# From our Members & the Public..



**Agaricus with "Rosecombs"**  
(aborted gills on cap) by  
David Babik



***Leucocoprinus cretaceus***  
by Andy Greller



**August Bolete Harvest**  
by Chris Rempe



***Armillaria mellea* by**  
Jing Zhang &  
Carlos Montero



**Fowler's Toad**  
guarding Trumpets  
by Roger Eklund



***Rectipilus* species**  
by Andy Greller



***Chlorophyllum molybdites***  
by Bay Shore resident



***Leucocoprinus fragilisimus* in**  
Peggy's outdoor flowerpot



***Chlorophyllum rachodes***  
(note wood-chip substrate)  
by Steve Farinelli

**GOOD FUNGI, BAD FUNGI..**

“Fungi for a long time were a kind of scientific bewilderment, classified as just slightly strange plants. In fact, at a cellular level, they aren’t very like plants at all. They don’t photosynthesize, so they have no chlorophyll and thus are not green. They are actually more closely related to animals than to plants. It wasn’t until 1959 that they were recognized as quite separate and given their own kingdom. ...By and large fungi leave us alone. Only about three hundred out of several million species affect us at all, and most of those mycoses, as they are known, don’t make you really ill, but rather cause only mild discomfort or irritation, as with athlete’s foot, say. A few, however, are much nastier than that, and the number of nasty ones is growing. *Candida albicans*, the fungus behind thrush, until the 1950s was found only in the mouth and genitals, but now it sometimes invades the deeper body, where it can grow on the heart and other organs, like mold on fruit. Similarly, *Cryptococcus gattii* was for decades known to exist in British Columbia in Canada, mostly on trees or in the soil around them, but it never harmed a human. Then, in 1999, it developed a sudden virulence, causing serious lung and brain infections among a scattering of victims in western Canada and the United States. Exact figures are impossible to come by because the disease is often misdiagnosed and, remarkably, is not reportable in California, one of the main sites of occurrence, but something over three hundred cases in western North America have been confirmed since 1999, with about a third of victims dying. Rather better reported are figures for coccidioidomycosis, which is more commonly known as valley fever. It occurs almost entirely in California, Arizona, and Nevada, infecting about ten thousand to fifteen thousand people a year and killing about two hundred, though the actual number is probably higher because it can be confused with pneumonias. The fungus is found in soils, and the number of cases rises whenever soils are disturbed, as with earthquakes and dust storms. Altogether fungi are thought to be responsible for about a million deaths globally every year, so hardly inconsequential.”

— The Body: A Guide for Occupants by Bill Bryson

**CALLIDERMA INDIGOFERUM: AN UPDATE**

In our Spring issue we reported on the rediscovery of *Calliderma indigofera* by Roger Eklund in Southaven County Park in Sept. 2019. Previously it had been reported only from the state of New Jersey, initially as a new species by J.B. Ellis, as *Agaricus (Entoloma) indigoferus* in 1876. There is one additional record in the nineteenth century by Ellis in September 1879. Despite searches in the intervening years, it was not refound until July 2013 by two women day visitors to a NJMA foray clad in shorts and high heels. It was forwarded to Prof. Tim Baroni for identification. (Details thanks to Nina Burghardt, NJMA.) It was found once again in the same locality, Wells Mills County Park, by Nina and John Burghardt in August 2018; and again this year in several New Jersey locations.

Roger returned to the Southaven County Park site, a damp mossy area alongside a stream, on Sept 4, and once again, *Calliderma indigofera* was fruiting. It remained in evidence to at least Sept. 15.

This area is dominated by Maple and Tupelo, with only a few widely separated Pine.

Additionally, on August 20 of this year it was also found in Cranberry Bog County Park by Peggy, in association with Atlantic White Cedar, a known symbiotic associate of *C. indigofera*. Once one encounters this beautiful mushroom with its shades of brilliant midnight blue contrasting with the pink gills, it is unlikely to be forgotten. Although there are a few other blue Entolomoids, none display the creased and folded pileus skin, ( visible at arrow on the right) caused by its cellular cap structure.



Can we expect to reencounter this mysterious species on a regular basis, now that it has favored us with its appearance for several years in a row? Only time will tell...



**WELCOME NEW MEMBERS**

Claudine & Kenneth Weiner

Franciska Riede & James Davidson

Mindy Silberg

Mark Jacoby & Mindy Segal

Becky Poulos

Theo & Justine Osborne



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*"Mushrooms don't change, it's only our knowledge of them that does."*  
*Walt Sturgeon*



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