NJMA NEWS

THE OFFICIAL NEWSLETTER OF THE NEW JERSEY MYCOLOGICAL ASSOCIATION

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NJMA OFFICERS

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Vice-President - **Stefanie Bierman**
Secretary - **Lyla Meader**
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DUES

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NJMA EVENTS HOTLINE

908-227-0872 for information on NJMA events or cancellations due to bad weather. *It is NOT for general inquiries or to contact officers!*

PHOTO BY MARICEL PATINO

Schizophyllum commune

Common Split Gill

Usually found on hardwood twigs, the Common Split Gill is distinguished by the "double row" pattern of each gill.

WHAT'S INSIDE:

PRESIDENT'S MESSAGE

How should one measure the success of a non-profit like NJMA? One measure might be our ability to retain and engage members from year to year. We know learning fungi takes time, and some people might join NJMA out of curiosity to learn more about the natural world, or with a limited goal of learning only a few edibles. Many members leave after a few years. But while they are members, we want to engage them as much as we can. The more they know, the more knowledge they have to share with others. Did everyone notice the addition this year of 'Do you know this mushroom' in the Taxonomy Tuesday emails? If you do not have time for an online Zoom, you can test your fungi knowledge each week.

NJMA surpassed 1,000 members for the first time in 2022. Like many mushroom clubs, we experienced a surge in membership in the last few years. But where are these members? Did you notice we stopped listing new members and their location in *NJMA News* last year? There were simply too many to list in a quarterly newsletter. On ***page 8*** is a map of New Jersey with total NJMA members by county. Not shown is another 10% of our members which are from outside of NJ. It is not entirely unexpected that we attract people from eastern Pennsylvania counties like Philadelphia, Bucks, Montgomery, Northampton, and Lehigh. But what is interesting is how few members attend an in person foray (17%), our online foray Taxonomy Tuesday (15%) or a winter online lecture (9%). Do the unseen members choose to interact on NJMA social media like Facebook and Instagram? Or have they simply not found the time in their busy schedule to join an activity?

To try to increase member engagement, a link to a short anonymous survey was added to an email to our members near the end of 2022. About 5% of our members responded. In the survey, we asked what activities they would be interested in for 2023 and in what county or nearby state they reside. A goal this year is to start adding back indoor activities. Facility rental costs since 2019 have increased, in some cases dramatically, but for 2023, the costs of an NJMA membership will remain the same. As we plan activities, the member survey responses will help guide us. Top of the desired activities was Fungus Fest! So stay tuned in this year – it takes dozens of volunteers to do a large public event. We will be able to share time and place once the date and facility is booked.

– Sue McClary

Visit the NJMA Discussion Group

facebook

http://tinyurl.com/jjualgz

EDITOR'S NOTES

Hi everyone,

Hope you folks are enjoying this very mild winter thus far. Besides some rock-hard hoof fungus, dead oysters, and the age old, ever-thriving turkey tail, fungi have been slim pickings. It's why I change my sights to bone collecting during this time of year. I found a neat, intact fibula bone from some unknown animal a couple of weeks back here in Pennsylvania.

But even though the mycelia are snugly underground now, NJMA is still offering a ton of online lecture events, including talks on dung fungi, native fungi to New Jersey, and the many uses of mycelium (though that one is hosted through the New Jersey Botanical Garden). All these talks will be advertised on our website, social media, and through a club-wide email blast, and I can't wait to see you all there.

As always, feel free to submit anything mushroom related to get us through these cold times!

– Sydney Hilton

NJMA BOARD OF DIRECTORS

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NJMA TRUSTEES

Jim Richards	2023
Luke Smithson	2024
Nina Burghardt	2025
Maricel Patino	2026
Dorothy Smullen	2027

WELCOME TO THE ONLINE EDITION OF NJMA NEWS

For the great majority of you who are viewing the online PDF of this newsletter, please note that **most web links and email addresses are clickable.** Clicking on a *blue* web or email address will launch your web browser and take you to the specified page or open your email software so you can send an instant email. Just look for the "click finger" when you hover your mouse over these items.

VISITS TO THE RAYMOND M. FATTO – EUGENE H. VARNEY HERBARIUM

by Lyla R. Meader

Dorothy Smullen, NJMA Trustee and NJMA Herbarium Chair, led two visits to the herbarium in 2022, the first by the Association since the Covid-19 pandemic began in early 2020. Having never been before, I was fortunate to tag along with her on both visits as it isn't the easiest place to find in the basement of the old biological sciences building on the Douglass College Campus of Rutgers University (RU). During the April 11th visit, we met up with Nina and John Burghardt, and on the December 2nd visit we met up with the Burghardts and Jason Hafstad, all club members.

The herbarium has an interesting history and Dorothy has been a part of it since the start. Per Dorothy, the first taxonomy session of the club met at her home on September 14, 1976 and then, in 1977, various dried and identified specimens were organized in boxes complete with scientific name, location where found and identifier's name. The first formal entry into the herbarium occurred on January 31, 1978. And thus began the NJMA herbarium! For a time, the herbarium was housed at the Somerset County Environmental Education Center (SCEEC). In May of 1978, the NJMA taxonomy committee received an invitation from Dr. Roger Locondro, Associate Dean at Rutgers University, to house the NJMA herbarium at Cook College. For many years, starting in September 1978, the herbarium was housed in the attic of Martin Hall, Cook College. In the 1980's, the collection was growing and the club purchased 5 herbarium cabinets to help with storage. Many specimens came from the efforts of club members Ray Fatto (1929-2003) and Dr. Eugene Varney (1923-2014), the latter a professor at Cook College, as a result of their 11-year study of the Hutcheson Memorial Forest and other field trips. In 2005, the NJMA herbarium was moved to its present location in a small room connected to the Chrysler Herbarium at Douglass College, with the help of Dr. Varney. Sometime after Dr. Varney's passing, the NJMA Executive Committee established the formal name "Raymond M. Fatto – Eugene H. Varney Herbarium of the New Jersey Mycological Association" to honor these two remarkable individuals who made substantial contributions to NJMA and, in particular, to the herbarium.

Our herbarium of roughly 3500 collections, (formally called accessions of macro-fungi), is housed with (but maintained separately from) the roughly 35,000 collections of mostly micro-fungi and plant pathogens such as rusts and molds in the Rutgers mycological herbarium. Together, they are in a small room off the side of the much larger Chrysler Herbarium of plant species. Macro-fungi take up considerable space, even when dried, so NJMA uses about 30% of the space in the small room. The whole Chrysler Herbarium space is rather cramped and quite warm. To protect the materials, no food or drink is permitted inside any of the herbarium spaces.

So what does one do when visiting the herbarium? Well, viewing prior accessions can be done. Herbaria exist and are organized to support the study of the collections. They can be extremely helpful to scientific researchers many years after being created. We weren't there to conduct research but, if you are a first-time visitor, Dorothy likes to give you a tour. We were, however, primarily there to work at accessioning new collections into the herbarium. On both visits, we ran out of time and did not get all the specimens processed. During the second visit we spent an hour meeting with Chrysler Herbarium Director Dr. Lena Struwe and Collections Manager Megan King to discuss getting a repository agreement established (and also MycoPortal). Dr. Struwe said it would be good to have a more formal relationship established between Rutgers and NJMA which she indicated would be a first of its kind for the university. Since our herbarium has a much different content of macro-fungi in New Jersey, it is of significant value and fills a niche to merit this housing support. Dorothy agreed to provide Dr. Struwe with a short summary of the NJMA herbarium and its service to science, which I also used as resource for this article. Rutgers has digitized their mycological herbarium and added it to MycoPortal, the mycology collections data portal which is a suite of web-based data access technologies to aid people in the study of fungal diversity. This database allows researchers the ability to search for and locate material of use in their work more readily than an off-line model. Our herbarium is not yet on MycoPortal, and this is potentially limiting its use. Megan King kindly offered to be of assistance on the setup of the NJMA account.

(continues on next page)

John Burghardt, Jason Hafstad, Nina Burghardt, and Lyla Meader at the Fatto-Varney herbarium

Since the beginning, the NJMA herbarium records have been in a manually-maintained 3-ring binder kept by Dorothy, and the associated card catalogue system is stored on top of the herbarium cabinets. Thanks to transcription work by John and Igor Safonov, the records are also now maintained in an electronic spreadsheet. The challenges are keeping the 3-ring binder, cards and spreadsheet in synch (not so hard) and figuring out how to deal with the ongoing taxonomic and nomenclatural changes. (How many readers learned the Birch Polypore as Piptoporus betulinus only to then have to relearn it as Fomitopsis betulina?) Staying on top of the taxonomic names is important to the herbarium work, and involves keeping up-to-date with the current scientific literature. "Much of this new knowledge is amassed from DNA analysis of type specimens and subsequent clarification of species concept and informative phylogenetic revision of taxonomic ranks," as I have learned from Igor Safonov. We have come to understand, in recent years, that in many instances, the practice of applying the names of European look-alike species to our North American fungi is wrong. An example is Trametes elegans, a European taxon. What we had been calling T. elegans is probably Trametes aesculi. Another recent example is our Ringless Honey Mushroom Desarmillaria caaespitosa, which is a vicariant species of the European Desarmillaria tabescens. (Just last year, I was calling the ringless honeys in my yard the wrong name, D. tabescens.) Dealing with the names is a real and continuing challenge.

Dorothy Smullen at the herbarium cabinets

The problem of the fungal binomial names comes up as we are accessioning collections. If we have, at a point in the past, accessioned a collection with the same name we should find the name in the card catalogue. The card catalogue is two, fairly full, shoe-box-sized boxes containing 5"x 8" light-green index cards, each card labeled with genus and species, onto which an accession for that species is entered. The boxes (and cabinets) are organized to separate the divisions of fungi - Basidiomycota from Other Basidio, Gastros, Ascos, Zygomycota and then cards (collections) are arranged alphabetically by genus and species within each larger division. All accessions of a given species are entered onto the card for that species until space runs out. (So far, I haven't seen any full cards as there is room for a dozen or more entries.) John does pre-work before each visit to identify if "we already have a card" and if not, provides in a worksheet the recognized author of the species (person recognized as first having described/named and published the species as new to science). The genus, species and author are written at the top of the new index card. Still, we sometimes cannot locate a card or only find it after starting a new card – one of the perils of a physical card system!

Every accession gets an accession number. This is written in red ink in the 3-ring binder, in the notes field on the green card and on the NJMA ID tag that was likely filled out at a foray. It is also written on a label that is affixed to the outside of a clear plastic sealable bag that contains the dried physical specimen, the NJMA ID tag and, often, a printed photograph. Some of our 2022 accessions have had DNA analysis performed and are also usually documented in either *iNaturalist* (iNat) or *Mushroom Observer* (MO). The iNat number or MO number is also recorded on the card and in the 3-ring binder. The date and location of where the specimen was found, along with who found and identified it are also recorded. Each new accession is also recorded in the spreadsheet (after the visit) by referencing a photograph of the 3-ring binder page.

While Dorothy, Nina and I worked at carefully completing 26 accessions and filing them into the cabinets in a systematic manner, John and Jason worked on the spreadsheet. They have continued working hard during the off-season to fully synonymize the species in the spreadsheet. Some other members have recently started to help with this task. Eventually, the spreadsheet will be sent off to MycoPortal to be bulk uploaded to their website and enable searches of NJMA's Raymond M. Fatto – Eugene H. Varney Herbarium by curious members of the public around the world. All of it is a rather satisfying effort!

(Note: Rutgers' herbarium info sheet is on the next page)

Join us this Tuesday!

TAXONOMY TUESDAYS

Online every Tuesday evening at 7:00PM on ZOOM!

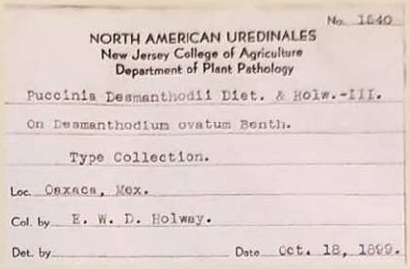
Download the ZOOM app to your phone, computer, or tablet and have digital photos of your mushrooms ready to present to the group.

Watch your email for details!

Mycological Herbarium

The Rutgers' Mycological Herbarium (RUT-PP) is estimated to contain over 40,000 fungal collections. The collection dates back to the period when Dr. Byron D. Halsted started as chairman of the newly founded Botany Department in 1889. The collection is housed within the framework of the New Jersey Agricultural Experiment Station, Cook College and Douglass College.

There are over 3000 specimens in the Rutgers' collection of North American Uredinales. This group, known as rust fungi, contain many species that cause diseases on plants of economic importance. *Puccinia desmanthodii* was described for the first time from this Mexican collection.


No. 1640
NORTH AMERICAN UREDINALES
New Jersey College of Agriculture
Department of Plant Pathology
Puccinia Desmanthodii Diet. & Holw.-III.
On Desmanthodium ovatum Benth.
Type Collection.
Loc. Oaxaca, Mex.
Col. by E. W. D. Holway.
Det. by _____ Date Oct. 18, 1899.

A Rich History

The history of the collection is reflected by its wealth of plant pathogenic species. The collection is an accumulation of specimens acquired through exchange with collectors and by receiving gifts from around the world. Many specimens of New Jersey mushrooms have been donated by members of the New Jersey Mycological Association.

This specimen of *Amanita muscaria var. formosana* was collected in Piscataway on the Busch campus of Rutgers University. (S. Eisenman)

***Agaricus sp.* growing in a cedar swamp with sphagnum moss in the pine barrens of New Jersey (S. Eisenman)**

Ongoing Research

Mycological research is strongly represented in the Department of Plant Biology and Pathology. Researchers conduct diverse studies on a wide range of topics including:

- Inheritance of fungal resistance cell death in the hypersensitive response of plants to pathogens
- Evolution in Clavicipitaceae (Ascomycetes)
- Fungal-plant symbiotic interactions
- Defense of grasses using plant endophytes
- Phylogenetic relationships within and between *Epichloe* and *Neotyphodium* endophytes
- The mycorrhizal endosymbiosis
- Phenology of the mummy berry fungus
- Apothecium development for populations of *Monilinia vaccinii-corymbosi*
- Variation and heritability of phenology in fungus *Monilinia vaccinii-corymbosi* on blueberry
- Identification of epiphyllous mycelial nets on leaves of grasses infected by clavicipitaceous endophytes
- Genotype responses and plant characteristics associated with dollar spot resistance in creeping bentgrass

Mummyberries produced by the brown rot disease *(Monilinia vaccinii -corymbosi).* (P. Oudemans)

Symptoms of summer patch (*Magnaporthe poae*) on Kentucky bluegrass (B. Clarke)

***Drechslera* leaf spot on Kentucky bluegrass (B. Clarke)**

The insect parasite *Cordyceps kanzashiana* and an isolate in culture

Polycephalomyces formosus*, the anamorph of *C. kanzashiana

CONTACTS

Mycological Herbarium Director: Dr. James White, Jr. — Department of Plant Biology & Pathology, Phone: (732)932-9711 x357, Fax: 732/932-9441, E-mail: jwhite@aesop.rutgers.edu

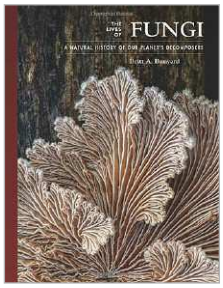
Collections Manager: Sasha W. Eisenman — Department of Plant Biology & Pathology, Phone: (732) 932-9711 x231, E-mail: eisenman@eden.rutgers.edu

http://aesop.rutgers.edu/~herbarium/

BOOK REVIEW

THE LIVES OF FUNGI
A NATURAL HISTORY OF OUR PLANET'S DECOMPOSERS

a review by Maricel Patino



The Lives of Fungi
A Natural History of Our Planet's Decomposers
by Britt Bunyard

Princeton University Press (April 26, 2022)
288 pages

ISBN-10: 0691229848
ISBN-13: 978-0691229843

Whether your fascination by fungi stems from their edibility, cultivation, culturing, medicinal, or from an artistic point of view, you will find plenty of examples through photos and a deep information level in this book.

You will learn what they are, how they reproduce, what is their chemistry and physiology. You will know their feeding habits as saprobes or parasites and their style of interaction with other organisms and matter making them a mutualist or a symbion.

Britt Bunyard has traveled around the world extensively, and in his book, he brings us his vast knowledge about fungi, their importance (beneficial or unfavorable) and their impact and main role in our ecosystem – which includes biotic and abiotic parts – making that hidden connection of the whole planet more clear.

Fungi are part of our daily life. They are so close to us that they could thrive in and on our bodies. The same holds for the plants and animals in the soil, in and outside our homes, and in the myriad of objects that accompany our journeys.

He shows us that, although some fungi are destructive (parasites), they are also saprobes (recyclers of the dead matter) and do it so throughout an endless display of forms, colors, shapes, textures, smells, tastes and sizes. What we call the 'fruitbodies' (the apple on a tree) is only the mycological tip of the iceberg.

The book is divided into eight chapters, and each one has several themes in it. Each is accompanied by photos and fascinating facts about fungi.

When I was reading this book, I pictured myself holding a speaker so I could tell this great information to as many people as I could. Several times, my stomach froze when I learned something new about them.

1 - What Are Fungi?
How fungi obtain their nutrition, their defense mechanisms, genetics, reproduction, communication, biology and physiology are explained here. He compares chitin, (the main compound of fungi) with cellulose, both which are indigestible in our bodies but necessary in the process of digestion.

2 - Reproduction
He includes historical facts about fungi, their classification and taxonomy, with the latest modern classification schemes separating fungi into four phylla, based on their sexual or asexual mode of reproduction. Details about hymenium configuration (fertile surface of fungi) are shown and explanations are given about the spore release mechanism (active and passive).

3 - Chemistry and Physiology
Fungi digest an incredible variety of matter: paper, clothes, shoes, feathers, dung, plastic, petroleum … Fungi glow, produce melanin, bio-luminesce, produce toxins, and ferment food.

4 - Saprobes and Parasites
Fungi are heterotrophs like us. Different types of rot are explained, and the real meaning of 'symbiont' and 'mutualistic' is made clear. Fungi exploit a variety of substrates like leaves, cones, sticks, nutshells, birds' nests, mulch, and the cellulose still present in dung! This classifies them into several types, like sarcophilus fungi (digesting keratin from horns, hooves, feathers and fur), just to give you one example of them. You will learn about others like biotroph fungi, pathogens, and rusts.

5 - Pathogens, Pandemics and Scourges
The author explains how fungi have and are affecting our planet in terrestrial and marine environments, apparently triggered by climate change; for example hurting amphibians, mammals and obliterating tree species.

6 - Mutualistic Symbionts
"Everything depends on everything else". Is it antagonistic or commensal? He explains about relationship between animals and fungi and fungi and plants, mycelial networks and lichens.

7 - Fungi and Humans
He examines the impact that humans have caused to our planet. One of these aspects is the carbon dioxide, the importance of mycorrhizal fungi and how, if protected, it can play a crucial part in combating global climate change. He emphasizes the use of organic farming to increase the population of AM fungi. He asks this question? "Are fungi really our enemy?" But there are also beneficial fungi. We made great use of this type. Find out how by reading this chapter.

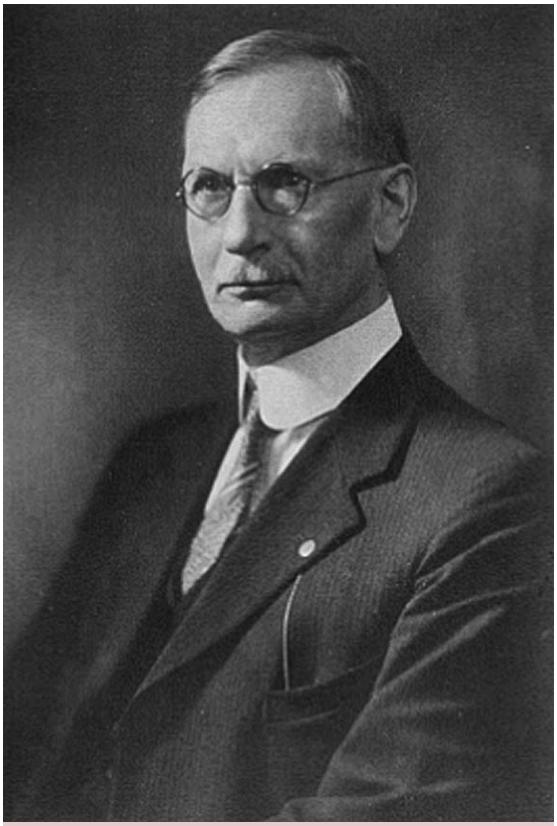
8 - Fungi and The Future
It is all about fungi that heal and feed. "You couldn't get through a single day without interacting with them". How? Fungi as medicine, food or a pathogen. Toxic fungi components can kill you but can also be

*(continues on **page 8**)*

WHO'S IN A NAME?
Harknessia shearii

by John Dawson (eighty-ninth in a series)

Harknessia shearii is a coelomycete (a conidial fungus whose conidia are formed in a cavity within a host's tissue) whose name honors two American mycologists: Harvey Willson Harkness, the subject of the 57th profile in this series, and Cornelius Lott Shear. According to *Index Fungorum*, Shear is commemorated as well in the names of the genera *Shearia* and *Sheariella* and the currently valid specific epithets of nineteen other fungi, including the forms *sheariana* and *shearianus* in addition to *shearii*.



Cornelius Lott Shear

Shear was born on 26 March 1865 in the village of Coeyman's Hollow in Albany County, New York. He attended country schools "as circumstances permitted",[1] and became interested in flowering plants early on. A family physician lent him books he could not otherwise obtain and helped prepare him for admission to the Albany State Normal School, forerunner of the State University of New York at Albany. At that school Shear met the mycologist E.A. Burt and became interested in fungi, and while in Albany he also became acquainted with the New York state botanist, Charles Horton Peck, with whom he developed a lifelong friendship.

For some time after graduating from the State Normal School, Shear led a peripatetic life as a grade school teacher. He taught first in Hartsdale, New York, then in Stockbridge, Massachusetts, and for several years in Alcove, New York, where his parents had relocated. In Stockbridge, he met Avis Sherwood, whom he wed on Christmas Day, 1890, in her parents' home in Osborne, Kansas. Their marriage endured until her death in 1950 and produced four sons and two daughters.

Shear's first mycological publications — popular articles on common mushrooms and two 'centuries' of exsiccata (bound volumes of one hundred dried fungi) — appeared while he was teaching in Alcove. Teachers' salaries were low, so sales of the exsiccata provided an important supplement to his income. Shear did not enjoy teaching and yearned to obtain a college degree that would afford him greater opportunities for employment, but he saw no prospect of doing so in New York so, in 1894, he moved to Osborne, Kansas, where he and his wife lived for a time with her parents in their home. There he once again taught briefly in a country school while earning most of his income from the sales of plants that he collected.

The turning point in Shear's career resulted from his contact with the mycologist Ernst Bessey at the University of Nebraska. Bessey offered him a 10-month undergraduate fellowship in the amount of $250, and Shear was also able to obtain an appointment in the Division of Agrostology of the U.S. Department of Agriculture to conduct studies of field grasses and other forage plants during the summers. For that he was paid the (then quite substantial) sum of $150 per month plus expenses, which allowed him to support a growing family while he earned his Bachelor of Science degree. Following its award in 1897 he stayed on for a year's graduate study, eventually earning a Masters degree, and in 1898 obtained a permanent appointment as Assistant Agrostologist at the USDA headquarters in Washington, DC. Three years later, the Bureau of Plant Industry was established, and Shear transferred to it to work in plant pathology, focusing on the life histories and taxonomy of fungal pathogens, especially those of cranberries. He published more than 30 papers on that subject, in addition to a comprehensive study of cranberry diseases that served as his 1906 Ph.D. dissertation at George Washington University. Subsequently, he also engaged in research on cotton root rot and diseases of grapes.

Shear substantially revised and simplified the taxonomy of anthracnose fungi and also devoted a great deal of attention to Pyrenomycetes, especially the genera *Physalospora* and *Botryosphaeria*. In 1912, he travelled widely in Europe conducting studies of the chestnut blight fungus, on which he afterwards co-authored a monograph. Then, in 1923, the Bureau of Plant Industry created a Division of Mycology and Disease Survey, with Shear as its head. Among the fruits of his work, there was an epochal paper, co-authored with B.O. Dodge, entitled *The life histories and heterothallism of the red bread-mold fungi of the Monilia sitophila group*, which stimulated much further research by others.

*(continues on **next page**)*

[1] Quoted from the obituary memoir of Shear by John A. Stevenson in *Mycologia* (vol. 49, no. 2, March–April 1957, pp. 283 – 297). That memoir is the source for all the information in this profile.

Aside from his official duties, Shear assiduously collected a great many specimens of Xylariaceae, with the aim, ultimately unrealized, of publishing an extensive monograph on that family. He also spent considerable time and effort pursuing historical studies of American mycology, gathering copies of correspondence of Schweinitz, Curtis, Ravenel and Ezra Michener and publishing articles about them. In the course of his historical work, he discovered Michener's collection of fungal specimens languishing in the attic of a Pennsylvania home. To preserve it he bought the collection and took it to Washington, "where it now forms one of the prized possessions of the National Fungus Collections."[2]

Shear was elected to membership in the Botanical Society of America during its early years, and served as its vice-president in 1908. He was also a charter member and the second president of the Mycological Society of America as well as a fellow of the American Association for the Advancement of Science in 1901, and he had a "long and intimate association with the American Phytopathological Society."[3] He was also a delegate to several International Botanical Congresses.

Shear retired in 1935, but continued to pursue his mycological interests for many years thereafter. Following his wife's death he moved to Monroe, Lousiana, to live with his elder daughter, but he was bedridden for much of his remaining years due to a heart condition. He died on 2 February 1956.

The obituary memoir of Shear by John Stevenson cited in footnote 1 includes a five-and-a-half page list of all of Shear's writings. Shear's unpublished technical notes, collections of fungi, mycological correspondence, microscopic preparations and many items from his library form "a large and integral part of the National Fungus Collections" in Beltsville, Maryland, where they serve as "a lasting memorial" to Shear's life and work.[4]

[2] *Ibid.*, p. 289
[3] *Ibid.*
[4] *Ibid.*, p. 290

Send in your articles and photos!

SUBMISSION DEADLINES for *NJMA NEWS*

NJMA News is a quarterly publication timed roughly to correspond with the middle of each season. The new issue dates and deadlines for 2023 are as follow:

SPRING (May) issue: Deadline is 4/15/2023
SUMMER (August) issue: Deadline is 7/15/2023
FALL (November) issue: Deadline is 10/15/2023
WINTER (February) issue: Deadline is 1/15/2024

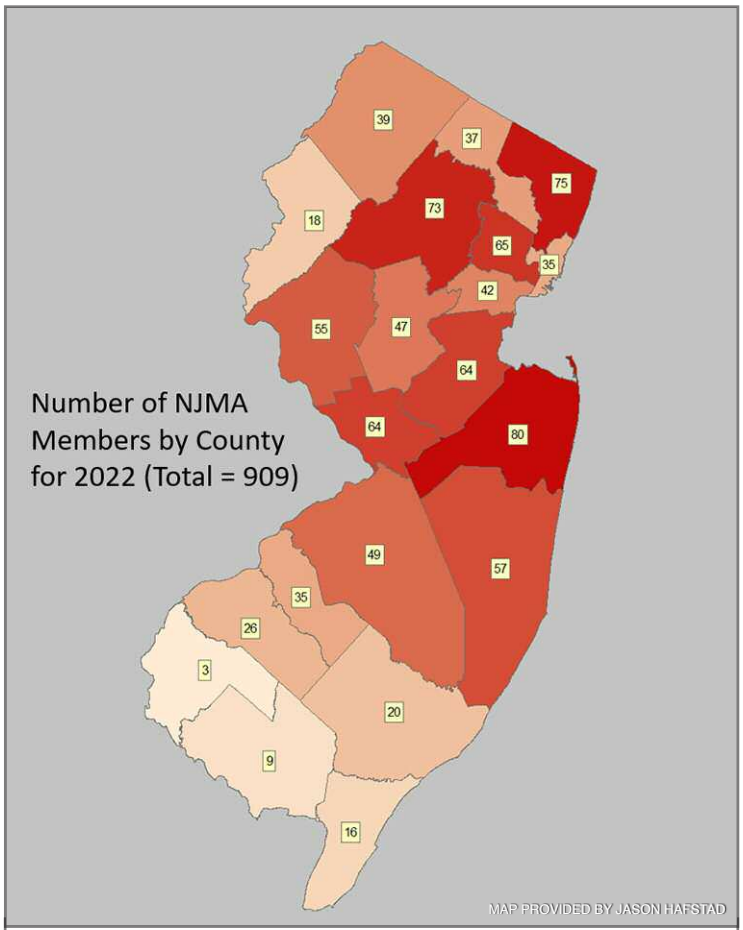
BOOK REVIEW *(continued from page 7)*

used to make medicine. Fungi ferment food and drinks. Fungi can break down all types of hydrocarbons. Fungi can be used to make food, fibers and medicine.

He closes his book presenting several Extreme fungi like morels, desert fungi, endolithic fungi (penetrating into stone), and truffles just to name a few examples.

This book is really a treasure that will always fascinate you due to the way the author pictures the life of the incredible fungi.

NJMA MEMBERSHIP DISTRIBUTION AS OF JANUARY 2023



(Map does not show the 10% of our members who are from out-of-state)

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Views expressed herein do not imply New Jersey Mycological Association endorsement.

IN MEMORIAM
TOM VOLK

compiled by Susan Hopkins and Sue McClary

Dr. Tom Volk, a VIP NJMA member since 2003, passed away in November 2022 at the age of 63. Tom was a Doctor of Mycology at the University of Wisconsin at Lacrosse since 1996 and was a good friend to NJMA over the years. Many of us got to know him at NEMF over the years as he was often a guest faculty member and an excellent and entertaining speaker. He had a way of explaining hard to understand mycology concepts in a way we amateurs could understand, in a manner similar to Gary Lincoff. He was one of the first to create a website, ***http://botit.botany.wisc.edu/toms_fungi/***, to teach interesting facts about fungi .

Tom was also known for having a full heart transplant in 2006 and surviving so long. Tom gave a TED talk on this experience: "A Change of Heart: My Transplant Experience" and it is still available online at ***https://tinyurl.com/yc4k9p48***.

You may need to have been in mycology for a few years to know him, but many years ago, NJMA brought him in often for talks and workshops. The picture of Tom below was taken at the service for Gary Lincoff at the New York Botanical Garden in April of 2018 when Tom was still President of the Mycological Society of America (MSA) (***msafungi.org***), the professional group. Among his awards were MSA's Weston Award for Excellence in Teaching and NAMA's Lifetime Contributions to Amateur Mycology award. As lectures moved online, Tom Volk continued his contributions, including "The Fungus Among Us Edible, Poisonous and Everywhere" (***https://tinyurl.com/ykvna95m***) and "The Seven Deadly Sins Committed by Fungi' (***https://tinyurl.com/4wpmf7ku***).

Gene Yetter, Tom Volk, Dorothy Smullen, and Susan Hopkins at the NYBG, memorial service for Gary Lincoff (2018)

IN MEMORIAM
JOHN HORVATH – PAST NJMA PRESIDENT (2001-2002)

compiled by Susan Hopkins and Sue McClary

In September 2022, we said goodbye to John Horvath, a past president of NJMA in 2001 and 2002.

John remained active until moving into a retirement facility in 2013. His wife, Terry, a former NJMA club secretary (1998 to 2000), predeceased him. John is remembered as someone with a cheerful positive personality – someone nice to be around.

As the years pass, it is sad that there are less and less members from twenty years ago still with NJMA. Only 20 members from before 2000 are still with NJMA. The long time friendships from NJMA are sometimes formed around different areas of fungi-love. For John Horvath, it was always about cooking mushrooms. He was also involved in the slow foods movement.

John Horvath and Jim Richards (current NJMA Culinary chair) were good friends for a long time. John was very active in the Culinary Group, hosting a number of dinners at his home.

John was easygoing, kind and generous, and was always interested in cooking events with mushrooms.

Susan Hopkins recalls that John used to help in the kitchen at our Mycophagy event back in the days when NJMA would meet at the Somerset County Environmental Education Center (SCEEC). They would cut up the mushrooms and vegetables, onions and such, whatever Bob Hosh and Jim Richards needed for their dishes. Then they would clean up and wash the pans and containers, leaving the kitchen cleaner than they found it. Mike Rubin sometimes also would help in that kitchen too - even with such a small kitchen. After about 1990, the mushrooms all came from Phillips Mushroom Farm in Kennett Square, PA as they did at the 2019 Fungus Fest.

(more photos on next page)

John and Terry Horvath (2006)

John Horvath, Jack Barnett, and Jim Barg at 2004 Mycophagy

ANNOUNCING THE FUNGI FOUNDATION'S FUNGI EDUCATION PROGRAM

A press release from the Fungi Foundation education team

The time has come – A free mycological curriculum is ready for you to share and teach children all about fungi!

The Fungi Fouccation is thrilled to announce that, after a year of hard work, the pilot phase for the Fungi Education Curriculum is complete, and it is now available for all educators. Together with Reconsider and Fantastic Fungi, our Fungi Foundation team has created a standard guide for teachers to bring fungi education into their classes, along with many other free resources that are part of the Fungi Education Program.

What if students all around the world had the chance to learn about fungi, their potential and the important roles they play in every ecosystem? Can you imagine the possibilities if we grow tons of mycologists over the next generations? That is the question the Fungi Foundation wants to answer with our Fungi Education Program!

"What would the world be like if every student learned about flora, fauna AND funga in school? We will soon find out!

The @fungifoundation has launched a mycological curriculum for teachers and educators together with Reconsider (@reconsiderorg) and Fantastic Fungi (@fantasticfungi). After a year of piloting it and teaching the lessons at schools in the US and Chile, it's officially completed and ready to use.

And guess what: Spanish translation of the curriculum is in the final revision and will soon be available too!

Go to www.fungieducation.org, sign up and get free access to the Fungi Education curriculum plus activities for kids and many free resources from the Fungi Education Program (@fungieducation).

Also, our Education Lead, Diana Richards, would be happy to do a quick presentation about the Fungi Education resources to your members. If you'd to schedule a presentation, please send her an email at drichards@ffungi.org.

The Fungi Foundation appreciates your support and will continue to work hard and expand our "mycelial network" of educators to spread Fungi Education across the world.

BYTES, BITS, & BITES

TASTY LITTLE TIDBITS FROM OUR MEMBERS

Have you read something interesting concerning mushrooms or foraging? Send it to ***njmaeditor@njmyco.org*** *and share with the rest of our members!*

from the Editor:

What zombie show 'The Last of Us' gets right about fungus in a warming world. Some fungi are already learning to adapt to warmer temperatures and expand their location, infecting more people

https://tinyurl.com/wkd9acju

from the Editor:

"Nobody Saw This Coming" – Scientists uncover a new branch of fungal evolution:

https://tinyurl.com/3t3xnnvd

from the Editor:

Bacteria and fungi can 'walk' across the surface of our teeth – Clusters of bacteria and fungi seem to be capable of complex movement, setting tooth decay in motion:

https://tinyurl.com/4m8kjnau

(continues on page 13)

RECORDER REPORT FOR 2022

by John Burghardt

NJMA's 2022 collecting season underscored how much fungi need moisture to produce their fruiting bodies. When conditions are dry, we can be pretty sure we will find fewer species than usual. If we go out looking for fungi in dry conditions, I look forward to a walk in the woods, and maybe finding some unusual fungi. For much of our 2022 season, this was our lot, although the fall season finally brought better conditions and changed when fall came.

Our collecting season stretched out over nine months this year, starting with two lichen workshops at Batsto Village in Wharton State Forest in April and at High Point State Park in May. Our regular forays began in June, when we also held our Victor Gambino Foray at Kirkridge Retreat Center near the Appalachian Trail in Bangor, PA. Our final foray was held at Belleplain State Forest in early November. A full list with locations and dates is at the end of the accompanying table. The table is organized alphabetically within "form groups". The form groups are defined by the characteristics of the spore bearing structures of the fungal fruiting body. They are intended as an aid to identification and do not reflect genetic relationships. You can see this because our list this year includes a Russula (one of our largest groups on gilled fungi) which has an earthball structure (*Russula parksii*). A list of our 2022 collections by foray location is available on our website at ***https://tinyurl.com/3pp62xpx.***

From June to August, our northern foray sites were much drier than usual and got drier as the summer progressed. In late July, I remember noting the unusually low level of the reservoirs we pass on the way to Green Turtle Pond foray at Long Pond Ironworks. All six of our forays in late June through the end of July produced fewer identified collections than usual (about 50 on average). Conditions improved somewhat in August, as did our species counts (about 60 on average). From September to early November, conditions were very good and we found about 90 species per foray during that interval. Over the full year, we identified 711 taxa fungi, of which 61 (8.5 percent) were collected for the first time at an NJMA foray. These were distributed across 11 of our 13 form groups. Our list also includes 82 taxa of Lichen including one that was a new state record (*Biatora appalachensis*), and one that has not been recorded in New Jersey since the 19th century (*Buelia dialyta*).

NJMA FUNGI COLLECTION FOR 2022

*(Names in **bold** indicate species new to our list)*

LICHEN

Biatora appalachensis*
Biatora printzenii
Buelia cf.stillingiana
Buellia dialyta+
Buellia sp.
Caloplaca feracissima
Caloplaca flavovirescens
Candelaria concolor
Candelariella efflorescens
Cetraria arenaria
Chrysothrix chamaecyparicola
Cladonia arbuscula
Cladonia cf. squamosa
Cladonia coniocrea
Cladonia cristatella
Cladonia dimorphoclada
Cladonia furcata
Cladonia incrassata
Cladonia ochrochlora
Cladonia peziziformis
Phaeophyscia rubropulchra
Physcia millegrana
Physcia pumilior
Physcia sp.
Physcia stellaris
Physcia thomsoniana
Placynthiella uliginosa
Porpidia albocaerulescens
Cladonia ramulosa
Cladonia rappii
Cladonia santensis
Cladonia strepsilis
Cladonia subtenuis
Cladonia uncialis
Cladonia verticillata
Dermatocarpon luridum
Dibaeis baeomyces
Dimelaena oreina
Flavoparmelia baltimorensis
Flavoparmelia caperata
Flavopunctelia soredica
Graphis scripta
Hypogymnia physodes
Imshaugia aleurites
Lasallia papulosa
Lecanora caesiorubella ssp caesiorubella
Lecanora hypocarpa
Lecanora saxigena (on rock)*
Pseudevernia consocians
Punctelia caseana
Punctelia rudecta
Pycnothelia papillaria
Pyrrhospora varians
Pyxine sorediata
Ropalospora viridis
Lecanora strobilina
Lecanora subpallens
Lecanora thysanophora
Leimonis erratica
Lepra pustulata
Lepraria cf. finkii
Lepraria cf. neglecta
Lepraria harrisiana
Lepraria hodkinsoniana
Lepraria sp.
Melanelia sp.
Ochrolechia yasudae
Parmelia squarrosa
Parmelia sulcata
Parmotrema hypotropum
Parmotrema perforatum
Peltigera praetextata
Peltigera rufescens
Pertusaria pustulata
Phaeophyscia adiastola
Scoliciosporum pensylvanicum
Trapeliopsis flexuosa
Trypethelium virens
Umbilicaria mammulata
Usnea strigosa
Usnea subscabrose
Usnocetraria oakesiana

NJMA FUNGI COLLECTION FOR 2022

*(Names in **bold** indicate species new to our list)*

MUSHROOMS - Fragile cap with gills, with or without stem

Agaricus andrewii
Agaricus floridanus
Agaricus silvaticus
Agaricus sp.
Agaricus vinosobrunneofumidus
Agrocybe sp.
Alboleptonia sp.
Amanita amerifulva
Amanita amerirubescens
Amanita amerivirosa
Amanita bisporigera
Amanita brunnescens v pallida
Amanita chrysoblema
Amanita citrina v citrina
Amanita cokeri
Amanita crenulata
Amanita daucipes
Amanita dulciarii
Amanita elongata
Amanita flavoconia
Amanita helmettensis
Amanita lavendula group
Amanita longipes
Amanita morrisii
Amanita persicina
Amanita polypyramis
Amanita rhacopus
Amanita rooseveltensis
Amanita sect. Amanita
Amanita sect. Lepidella
Amanita sect. Phalloideae
Amanita sect. Rhacopus
Amanita sect. Vaginatae
Amanita sinicoflava
Amanita sp.
Amanita variicolor
Armillaria gallica
Armillaria mellea
Armillaria sp.
Arrhenia epichysium
Atheniella adonis
Baeospora myosura
Calliderma indigofera
Callistosporium luteo-olivaceum
Callistosporium purpureomarginatum
Candolleomyces candolleanus
Clitocybe odora
Clitocybe sp.
Clitopilopsis hirneola
Clitopilopsis sp.
Clitopilus hobsonii
Clitopilus nuciolens
Clitopilus prunulus
Collybia cirrhata
Collybia tuberosa
Collybiopsis confluens
Conocybe velitupes
Coprinellus sp.
Coprinopsis atramentarius
Coprinopsis sp.
Coprinopsis variegata
Coprinus disseminatus
Coprinus sp.
Cortinarius alboviolaceus
Cortinarius anomalus
Cortinarius caperatus
Cortinarius corrugatus
Cortinarius croceus
Cortinarius distans
Cortinarius iodes
Cortinarius lilacinus
Cortinarius mucosus
Cortinarius sanguineus
Cortinarius section Dermocybe
Cortinarius semisanguineus group
Cortinarius sp.
Crepidotus applanatus
Crepidotus applanatus v globigera
Crepidotus calolepis
Crepidotus crocophyllus
Crepidotus sp.
Crepidotus stipitatus
Crepidotus vulgaris
Cuphophyllus pratensis
Cuphophyllus sp.
Cuphophyllus virgineus
Cyptotrama asprata
Cystolepiota sp.
Deconica sp.
Desarmillaria caespitosa
Entoloma abortivum
Entoloma rhodopolium
Entoloma sericeum
Entoloma sp.
Entoloma strictius
Entoloma strictius var. isabellinus
Galerina marginata
Galerina paludosa
Galerina sp.
Galerina tibiicystis
Gerronema strombodes
Gliophorus laetus
Gloioxanthomyces nitidus
Gymnopilus junonius group
Gymnopilus liquiritiae
Gymnopilus luteus
Gymnopilus penetrans
Gymnopilus sapineus
Gymnopilus sp.
Gymnopus biformis
Gymnopus dichrous
Gymnopus dryophilus
Gymnopus sp.
Gymnopus spongiosus
Gymnopus subnudus
Hebeloma sp.
Hohenbuehelia angustata
Hohenbuehelia sp.
Humidicutis marginata
Hydropus sp.
Hygrocybe cantharellus
Hygrocybe coccinea
Hygrocybe coccineocrenata
Hygrocybe conica
Hygrocybe conicoides
Hygrocybe flavescens
Hygrocybe sp.
Hygrophoropsis aurantiaca
Hygrophorus hypothejus
Hygrophorus ponderatus
Hygrophorus subsordidus
Hymenopellis furfuracea
Hypholoma capnoides
Hypholoma elongatum
Hypholoma fasciculare
Hypholoma lateritium
Inocephalus quadratus
Inocybe fuscodisca
Inocybe geophylla
Inocybe sp.
Laccaria amethystina
Laccaria bicolor
Laccaria laccata v pallidifolia
Laccaria longipes
Laccaria proxima
Laccaria sp.
Laccaria striatula
Laccaria trichodermophora
Laccaria trullisata
Lacrymaria lacrymabunda
Lactarius areolatus
Lactarius argillaceifolius
Lactarius camphoratus
Lactarius chelidonium
Lactarius chrysorheus
Lactarius croceus
Lactarius deceptivus
Lactarius deterrimus
Lactarius griseus

NJMA FUNGI COLLECTION FOR 2022

*(Names in **bold** indicate species new to our list)*

MUSHROOMS (continued)

Lactarius helvus
Lactarius hibbardae
Lactarius imperceptus
Lactarius indigo
Lactarius mucidus v mucidus
Lactarius paradoxus
Lactarius piperatus
Lactarius proximellus
Lactarius sp.
Lactarius subpurpureus
Lactarius vinaceorufescens
Lactarius volemus
Lentinellus ursinus
Lentinus sp.
Lepiota cristata
Lepista nuda
Lepista subconnexa
Leptonia foliomarginata
Leptonia sp.
Leucoagaricus leucothites
Leucocoprinus cepistipes
Leucocoprinus fragilissimus
Lyophyllum decastes
Macrolepiota procera
Mallocybe tomentulosa
Mallocybe unicolor
Marasmiellus praeacutus
Marasmiellus ramealis
Marasmius capillaris
Marasmius rotula
Marasmius siccus
Marasmius sp.
Megacollybia rodmanii
Melanoleuca gravis
Melanoleuca odorum
Melanophyllum haematospermum
Mycena corticola
Mycena crocea
Mycena epipterygia
Mycena epipterygia v lignicola
Mycena galericulata
Mycena griseoviridis
Mycena haematopus
Mycena holoporphyra
Mycena inclinata
Mycena leaiana
Mycena leptocephala
Mycena praelonga
Mycena pura
Mycena pura var. alba
Mycena sp.
Mycena subcaerulea
Mycena subincarnata
Mycetinis opacus
Nolanea murrayi
Omphalina pyxidata
Omphalotus illudens
Panaeolina foenisecii
Panaeolus sp.
Panellus stipticus
Panus conchatus
Pholiota aurivella
Pholiota flammans
Pholiota granulosa
Pholiota sp.
Pholiota squarrosoides
Pholiotina rugosa
Phyllotopsis nidulans
Pleurocybella porrigens
Pleurotus citrinopileatus
Pleurotus levis
Pleurotus ostreatus
Pleurotus pulmonarius
Pleurotus sp.
Plicaturopsis crispa
Pluteus cervinus
Pluteus chrysophlebius
Pluteus sp.
Pluteus thomsonii
Pluteus tomentosulus
Psathyrella piluliformis
Psathyrella sp.
Psuedomarasmius pallidocephalus
Resupinatus applicatus
Rhodocollybia butyracea
Rhodocollybia maculata v maculata
Rhodocollybia maculata v scorzonerea
Rickenella fibula
Roridomyces roridus
Russula abietina
Russula adusta
Russula aeruginea
Russula albidula
Russula alcalinicola
Russula anomala
Russula aquosa
Russula betularum
Russula brevipes
Russula brunneola
Russula brunneoviolacea
Russula compacta
Russula cystidiosa
Russula dadmunii
Russula dissimulans
Russula fragiloides
Russula glutinosa
Russula grata
Russula heterophylla
Russula incarnaticeps
Russula ionochlora
Russula mariae
Russula modesta
Russula ochroleucoides
Russula pectinatoides
Russula perlactea
Russula pseudolepida
Russula pulchra
Russula pusilla
Russula rubellipes
Russula rugulosa
Russula sericeonitens
Russula silvicola
Russula sp.
Russula stricta
Russula subgraminicolor
Russula subsericeonitens
Russula variata
Russula ventricosipes
Russula vesicatoria
Russula vinacea
Schizophyllum commune
Simocybe sp.
Sphagnurus paluster
Stropharia hardii
Tapinella atrotomentose
Tapinella panuoides
Tricholoma brunneoalba
Tricholoma caligatum group
Tricholoma colossus
Tricholoma equestre
Tricholoma fulvum
Tricholoma magnivelare
Tricholoma pseudoterreum
Tricholoma sejunctum
Tricholoma serratifolium
Tricholoma sp.
Tricholoma sulphureum
Tricholoma terreum
Tricholomopsis decora
Typhrasa gossypina
Xeromphalina campanella
Xeromphalina cauticinalis
Xeromphalina kauffmanii
Xerula megalospora
Xerula sp.

BYTES, BITS, & BITES

(coninued from page 10)

from Jim Barg:

Scientists know how the world's deadliest mushroom is spreading across the US:

https://tinyurl.com/2m9tyze7

from the Editor:

The burning question about fungi: What happens to them in extreme heat? Scientists in Italy are testing the impact of fire and drought to learn how the changing climate affects underground fungal networks:

https://tinyurl.com/44fmyvp9

(continues on page 16)

NJMA FUNGI COLLECTION FOR 2022

*(Names in **bold** indicate species new to our list)*

BOLETES - Fleshy, fragile with separable pores instead of gills

Aureoboletus auripororus
Aureoboletus projectellus
Aureoboletus sp.
Baorangia bicolor
Boletaceae sp.
Boletinellus merulioides
Boletus longicurvipes
Boletus nobilis
Boletus oliveisporus
Boletus pallidoroseus
Boletus patrioticus
Boletus purpureorubellus
Exsudoporus frostii
Gyroporus castaneus group
Gyroporus smithii
Gyroporus sp.
Hortiboletus sp.
Imleria pallida
Lanmaoa pseudosensibilis
Lanmaoa sensibilis
Lanmaoa sp.
Leccinellum albellum
Leccinellum rugosiceps
Leccinum holopus v holopus
Leccinum rubropunctum
Leccinum sp.
Leccinum vulpinum
Phlylloporopsis boletinoides
Phylloporus rhodoxanthus
Pulchroboletus sp.
Retiboletus ornatipes
Retiboletus vinaceipes
Strobilomyces sp.
Suillus americanus
Suillus brevipes
Suillus decipiens
Suillus hirtellus
Suillus luteus
Suillus salmonicolor
Suillus sp.
Suillus spraguei
Suillus weaverae
Tylopilus alboater
Tylopilus ballouii
Tylopilus felleus
Tylopilus sp.
Tylopilus variobrunneus
Xerocomellus chrysenteron
Xerocomellus sp.
Xerocomus illudens
Xerocomus sclerotiorum

CHANTERELLES - Gill-like folds, wrinkles, or smooth fertile surface

Cantharellula umbonata
Cantharellus cibarius group
Cantharellus cinnabarinus
Cantharellus flavus
Cantharellus lateritius
Cantharellus minor
Cantharellus sp.
Craterellus fallax
Craterellus ignicolor
Craterellus lutescens
Craterellus sp.
Craterellus tubaeformis
Craterellus venosus
Tubinellus floccosus

POLYPORES - Dry, tough, woody; tubes not separable from cap; often without stem

Abortiporus biennis
Antrodia albida
Antrodia sp.
Antrodiella semisupina
Bjerkandera adusta
Bondarzewia berkeleyi
Bresadolia craterella
Byssomerulius incarnatus
Cerioporus leptocephalus
Cerioporus squamosus
Cerioporus varius
Cerrena unicolor
Coltricia perennis
Coltriciella dependens
Cyanosporus livens
Daedalea quercina
Daedaleopsis confragosa
Daedaleopsis septentrionalis
Dentocorticium portoricense
Fibroporia radiculosa
Fistulina hepatica
Fomes fomentarius
Fomitopsis betulina
Fuscoporia ferruginosa
Fuscoporia gilva
Fuscopostia leucomallella
Ganoderma applanatum
Ganoderma curtisii
Ganoderma lobatum
Ganoderma sessile
Ganoderma sp.
Ganoderma tsugae
Globifomes graveolens
Gloeophyllum abietinum
Gloeophyllum sepiarium
Gloeoporus dichrous
Grifola frondosa
Hapalopilus rutilans
Heterobasidion annosum
Heterobasidion irregulare
Inonotus dryadeus
Inonotus hispidus
Inonotus tomentosus
Irpex lacteus
Irpex latemarginata
Ischnoderma resinosum
Laetiporus cincinnatus
Laetiporus persicinus
Laetiporus sp.
Laetiporus sulphureus
Leiotrametes lactinea
Meripilus sumstinei
Metuloidea fragrans
Neoantrodia serialiformis
Neofavolus alveolaris
Neofavolus americanus
Neofavolus sp.
Niveoporoformis spraguei
Onnia leporina
Phaeolus schweinitzii
Phellinus everhartii
Phellinus robiniae
Phellinus sp.
Phlebia radiata
Phlebia tremellosa
Polyporus badius
Polyporus radicatus
Porodaedalea pini
Postia tephroleuca
Schizopora paradoxa
Trametes aesculi
Trametes betulina
Trametes cinnabarina
Trametes conchifer
Trametes gibbosa
Trametes hirsuta
Trametes ochracea
Trametes pubescens
Trametes sp.
Trametes versicolor
Trametopsis cervina
Trichaptum abietinum
Trichaptum biforme
Trichaptum fuscoviolaceum
Trichaptum laricinum
Tyromyces chioneus
Tyromyces sp.

NJMA FUNGI COLLECTION FOR 2022

*(Names in **bold** indicate species new to our list)*

CRUST FUNGI - thin, soft, or tough flat against wood, with pores, smooth, or wrinkled fertile surface

Amphinema byssoides
Asterostroma medium
Atheliachaete sanguinea
Botryobasidium conspersum
Botryobasidium simile
Botryobasidium sp.
Bulbillomyces farinosus
Byssomerulius corium
Ceriporia reticulata
Ceriporia spissa
Ceriporia tarda
Cineromyces lindbladii
Coniophora olivacea
Dacryobolus karstenii
Ceriporia sp.
Dacryobolus sudans
Gloeocystidiellum sp.
Gloeocystidium ochroleucum
Henningsomyces candidus
Hydnophlebia chrysorhiza
Hydnoporia tabacina
Hymenochaete rubiginosa
Hymenochaete sp.
Hyphodontia sp.
Laxitextum bicolor
Leptosporomyces sp.
Leucogyrophana olivascens
Peniophora albobadia
Peniophora cinerea
Peniophora incarnata
Peniophora versiformis
Peniophorella sp.
Perenniporia subacida
Perenniporia tenuis var. pulchella
Phanerochaete sp.
Phlebiopsis crassa
Phlebiopsis gigantea
Physisporinus sp.
Pseudomerulius curtisii
Punctularia strigosozonata
Radulon sp.
Rigidoporus crocatus
Scytinostroma artocreas
Terana caerulea
Tomentella sp.
Tubulicrinis angustus
Tulasnella aurantiaca
Tulasnella deliquescens
Tylospora asterophora
Vararia investiens
Xylobolus frustulatus
Xylobolus subpileatus

STEROID FUNGI - Mostly fan shaped, tough with smooth fertile surface

Chondrostereum purpureum
Stereum complicatum
Stereum fasciatum
Stereum gausapatum
Stereum hirsutum
Stereum lobatum
Stereum ochraceoflavum
Stereum ostrea complex
Stereum sanguinolentum
Stereum sp.
Stereum striatum
Stereum subtomentosum

TOOTH FUNGI - fleshy or woody with spines or teeth on fertile surface

Bankera fuligineoalba
Climacodon pulcherrimus
Climacodon septentrionale
Hydnellum concrescens
Hydnellum pineticola
Hydnoporia olivacea
Hydnum sp.
Hydnum subolympicum
Irpiciporus pachyodon
Phellodon confluens
Radulomyces confluens
Radulomyces copelandii
Radulomyces rickii
Sarcodon atroviridis
Spongipellis unicolor
Steccherinum bourdotii
Steccherinum ochraceum
Steccherinum sp.
Steccherinum subcrinale

CLUB, CORAL, or FAN-SHAPED FUNGI

Artomyces pyxidata
Clavaria fragilis
Clavaria fumosa
Clavaria sp.
Clavariadelphus americanus
Clavulina cinerea
Clavulina coralloides
Clavulina sp.
Clavulinopsis aurantio-cinnabarina
Clavulinopsis fusiformis
Multiclavula mucida
Ramaria stricta
Sparassis spathulata
Thelephora americana
Thelephora sp.
Thelephora terrestris

PUFFBALLS, EARTHSTARS, EARTHBALLS, STINKHORNS, BIRD'S NEST FUNGI

Apioperdon pyriforme
Arachnion album
Astraeus morganii
Astraeus smithii
Bovista polymorpha
Calostoma cinnabarinum
Calvatia craniiformis
Calvatia cyathiformis
Calvatia gigantea
Calvatia sp.
Crucibulum laeve
Cyathus sp.
Cyathus stercoreus
Disciseda sp.
Lycoperdon caudatum
Lycoperdon marginatum
Lycoperdon molle
Lycoperdon perlatum
Lycoperdon sp.
Lycoperdon umbrinum
Mutinus elegans
Phallus ravenelii
Pisolithus arhizus
Rhizopogon roseolis
Rhizopogon sp.
Rhopalogaster transversarium
Russula parksii
Scleroderma areolatum
Scleroderma cepa
Scleroderma citrinum
Scleroderma meridionale
Scleroderma michiganense
Scleroderma polyrhizum
Scleroderma sp.

NJMA FUNGI COLLECTION FOR 2022

*(Names in **bold** indicate species new to our list)*

JELLY FUNGI

Auricularia angiospermarum
Auricularia auricula
Auricularia sp.
Calocera cornea
Calocera sp.
Calocera viscosa
Dacrymyces chrysospermus
Dacrymyces pedunculatus
Dacrymyces sp.
Dacrymyces stillatus
Dacryopinax spathularia
Ductifera pululahuana
Exidia crenata
Exidia glandulosa
Exidia nigricans
Helicogloea compressa
Myxarium nucleatum
Naematelia cerebriformis
Phaeotremella foliacea
Pseudohydnum gelatinosum
Sebacina schweinitzii
Tremella mesenterica

CUP FUNGI, EARTH-TONGUES, and PYRENOMYCETE ALLIES

Alternaria sp.
Ampelomyces quisqualis
Apiosporina morbosa
Arthrosporium candidum
Beauveria bassiana
Biscogniauxia atropunctata
Brunnipila sp.
Calycina citrina
Cercospora sp.
Chlorociboria aeruginascens
Chlorociboria sp.
Chromelosporium carneum
Chromelosporium fulvum
Daldinia childiae
Endothia gyrosa
Erysiphe liriodendri
Eupezizella aureliella
Galiella rufa
Geoglossum simile
Geoglossum sp.
Gibellula sp.
Guepiniopsis buccina
Helicosporium sp.
Helminthosphaeria clavariarum
Helvella crispa
Hymenoscyphus fructigenus
Hypomyces aurantius
Hypomyces chrysospermus
Hypomyces hyalinus
Hypomyces ochraceus
Hypomyces polyporinus
Hypomyces sp.
Hypoxylon fragiforme
Hypoxylon perforatum
Hypoxylon rubiginosum
Hypoxylon sp.
Kretzschmaria deusta
Lachnellula sp.
Microglossum rufum
Mitrula elegans
Mitrula lunulatospora
Pachyella sp.
Peziza sp.
Peziza varia
Phaeocalicium polyporaeum
Pithomydces sp.
Ramsbottomia crechquerqaultii
Rhizodiscina lignyota
Rhytisma sp.
Rosellinia subiculata
Rutstroemia conformata
Sarcoscypha occidentalis
Sarcoscypha sp.
Scorias spongiosa
Scutellinia blumenaviensis
Scutellinia scutellata
Sphaerosporium lignatile
Thecotheus sp.
Tolypocladium ophioglossoides
Torrubiella arachnophila
Trichoderma peltatum
Trichoderma sulphureum
Trichoderma viride
Vibrissea foliorum
Xylaria cubensis
Xylaria longiana
Xylaria longipes
Xylaria polymorpha
Xylaria sp.

MYXOMYCETES

Arcyria cinerea
Arcyria denudata
Arcyria sp.
Ceratiomyxa fruticulosa
Enteridium splendens
Fuligo rufa
Fuligo septica
Hemitrichia calyculata
Lindbladia tubulina
Lycogala epidendrum
Mucilago crustacea
Perichaena chrysosperma
Perichaena depressa
Perichaena quadrata
Physarum aeneum
Reticularia lycoperdon
Stemonitis sp.
Stemonitis splendens
Trichiales sp.
Ttrichiaceae sp.
Tubifera ferruginosa

ZYGOMYCETES & UREDIOMYCETES (Rust/Cankers)

Spinellus fusiger
Puccinia smilacis
Pucciniales
Exobasidium sp.

BYTES, BITS, & BITES

(continued from page 13)

from Sue McClary:
What Are the Benefits of Cordyceps Mushrooms?:
https://tinyurl.com/2ta6cdy6

from Sue McClary:
Mystery parasites on zombie ant fungus identified
https://tinyurl.com/mtkfbt5m

from Sue McClary:
This Fungus Has More Than 17,000 Sexes:
https://tinyurl.com/3dwx53dh

from Sue McClary:
The future is here: An urban mushroom farm just south of downtown L.A.:
https://tinyurl.com/2uut3jat