

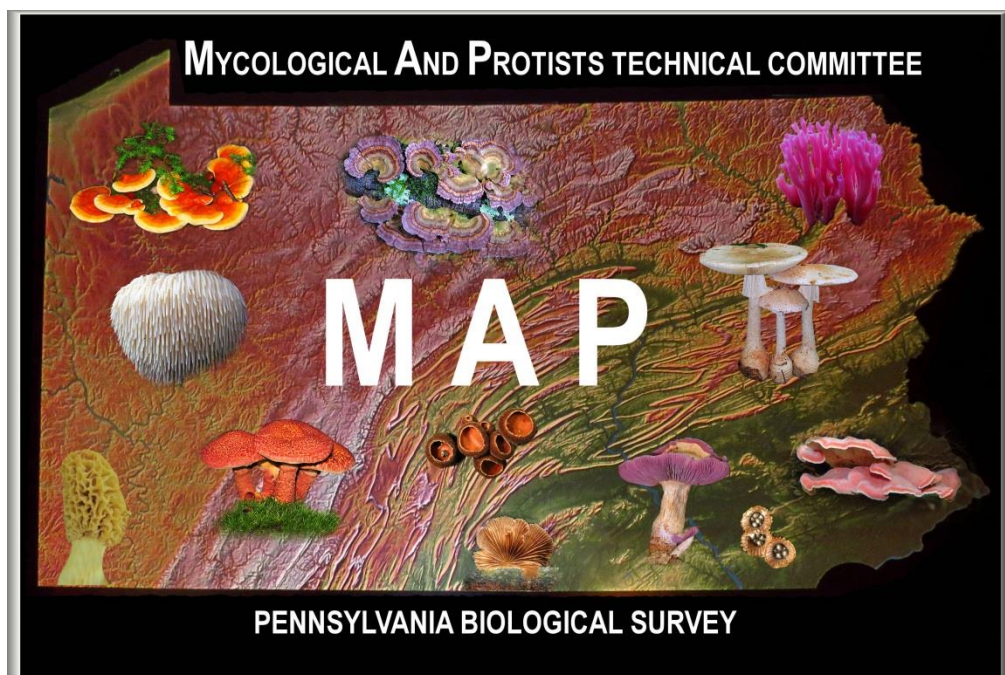
# CITIZEN SCIENCE MYCO-RESOURCES

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COMPILED IN 2022 AND 2023 BY JERRY HASSINGER TO SUPPORT THE OUTLINED STRATEGIES IN THE PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES DRAFT (1/6/2022) "FUNGI CONSERVATION WORK PLAN."

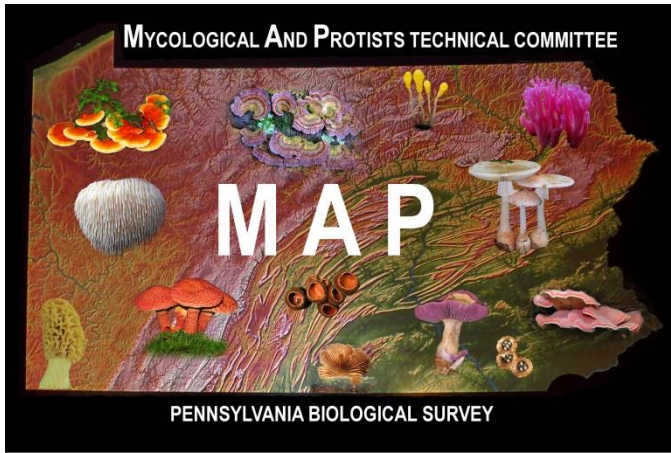
THESE STRATEGIES ARE THE INFORMAL BASIS FOR A FUTURE AND ONGOING WORKING RELATIONSHIP BETWEEN DCNR AND THE PENNSYLVANIA BIOLOGICAL SURVEY'S (PABS) MYCOLOGICAL AND PROTISTS TECHNICAL COMMITTEE (MAP-TC).

THIS COMPILATION WAS REVIEWED BY MEMBERS OF THE MAP-TC:  
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**MAP VISION:** *FUNGI CONSERVATION INFORMED BY SCIENTIFIC DATA TO COMPLY WITH THE INTENT OF PENNSYLVANIA'S ENVIRONMENTAL AMENDMENT SECTION 27, ARTICLE 1, PENNSYLVANIA CONSTITUTION*

## PART 3 2023- MYCO-RESOURCES: CITIZEN SCIENCE



### A PROJECT AND PRODUCT OF THE MAP-TC

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This is a three part review and compilation of the majority of myco-resources available for education, research and management in and near Pennsylvania.

**Part 1 2023 - Myco- Resources:** A compilation of online mycology courses, classes and educational materials. (Completed)

**Part 2 2023–Myco-Resources:** A compilation of University mycology courses and Instructors In and near Pennsylvania. (Completed)

### **PART 3 2023-MYCO-RESOURCES: AN OVERVIEW OF FUNGAL RELATED CITIZEN SCIENCE ACTIVITIES IN AND NEAR PENNSYLVANIA**

Citizen science is where the rubber meets the road. It's fair to say we'd know substantially less about macro-fungi without the contributions of nature snoopers or citizen scientists, call them what you will. These contributions have mushroomed with the evolution and distribution of the iPhone and with the ease with which almost anyone can add an observation to: 1) **iNaturalist**, 2) **the Mushroom Observer** or 3) **the FunDiS Diversity Database project**. These three record keeping, on-line platforms and their analytical capabilities are invaluable.

#### **A BRIEF OVERVIEW OF CITIZEN SCIENCE**

There are numerous definitions of Citizen Science, see: [Citizen science - Wikipedia](#). For our purposes, citizen science typically involves public, largely amateur, participation in advancing mycological knowledge through independent or collaborative involvement in fungal data collection, reporting and analysis. **The science of mycology is somewhat unique given the extent it can benefit from the efforts of citizen scientists working independently or in collaboration with professionals. Use of citizen scientists is a "cost-effective approach to large scale data acquisition."**

Education, training, relationships, experience and feedback, i.e. self-satisfaction, impacts the quality of citizen science. A budding or casual citizen scientist may be satisfied to upload a “fungus or mushroom” to iNaturalist. But experienced mycophiles try to identify every fungal species they find, at least to genus. The Fungal Diversity Survey (FunDis) evolved to help increase the quality of citizen science, see Box 1. This box has sites that provide extra detail relating to the improvement of the **quality** of fungal-related citizen science.

## BOX 1

[Fungal Diversity Survey - North American Mycological Association \(namyco.org\)](https://namyco.org)

*“NAMP [ Mycoflora Project ] becomes Fungal Diversity Survey*

*On August 8, 2020, NAMP became Fungal Diversity Survey, or **FunDiS** for short. Having the word mycoflora in our name had become a challenge. “Flora” is a term from botany - the study of plants. Fungi, as Professor Don Pfister eloquently explained in a [Deep Funga blog post](#), are anything but plants. Fungi are their own kingdom - but as long as they get lumped in with plants they will not get the recognition, attention and protection they deserve. As an organization championing the special place of fungi in the world we needed to stand up for them - starting with our name.*

*“Crowd-sourcing a quality fungal database*

*Our rebranding marks a significant evolution of our mission, an evolution hinted at in a blog post, [A four-tiered model for crowdsourcing fungal biodiversity citizen science](#).*

*“Up until now we’ve focused on requiring participants to operate at the level of professional mycologists: extensive documentation; sequencing DNA, and preserving dried specimens deposited in fungaria. While this is wonderful (and not something we would ever want to lose) we realized that it is overwhelming to the average mushroom lover and represents a somewhat limited view of what constitutes legitimate science in the era of crowdsourcing.*

*“We asked ourselves - what could FunDiS meaningfully contribute? After all, iNat and Mushroom Observer seem to be doing fine without our help. **When we asked mycologists interested in using citizen science data, the need was clear: better data!** While there is no shortage of observations of fungi on internet platforms, many observations are not useful because pictures are poor or insufficient, many are wrongly identified and many lack valuable substrate, habitat and other data.*

*“We realized that there is an opportunity to broaden our current mission, by engaging the large universe of mycophiles posting observations online and (a) training them to provide higher quality documentation and (b) ensuring that observations get IDd by expert identifiers. Participants simply need to join and contribute their observations to [FunDiS iNaturalist Project](#) while observing the posted minimum quality standards. A pool of “triggers” give people feedback on how to improve observation quality, while expert identifiers provide or confirm IDs and flag interesting specimens for specialists. Instructions are [here](#).”*

**SEE APPENDIX 1**

## KEEPING TRACK OF FUNGAL-RELATED CITIZEN SCIENCE IN PENNSYLVANIA

### THE BIG PICTURE

#### PENNSYLVANIA-SPECIFIC STATE-WIDE OBSERVATIONS ON THE MUSHROOM OBSERVER

- [Mushroom Observer: Observations Matching 'Pennsylvania'](#)

#### PENNSYLVANIA AND FUNGI-SPECIFIC STATE-WIDE PROJECTS ON iNATURALIST

- **Fungi of Pennsylvania** [Fungi of Pennsylvania · iNaturalist](#) a Collection Project for all fungal observations that are research grade or need ID
- PA fungi all [PA fungi all · iNaturalist](#) a Collection Project that includes casual grade observations.
- Pennsylvania Fungi [Pennsylvania Fungi · iNaturalist](#) a Traditional Project for PA fungi.
- Excluded Fungi [Excluded Fungi · iNaturalist](#) a Collection project that does not include the most common species, and also does include slime molds
- WPMS Western Pennsylvania Fungi [WPMC Western Pennsylvania Fungi · iNaturalist](#) · a Traditional Project for Western Pennsylvania Fungi

Note: Observations on any of these Projects or Platforms (Mushroom Observer and iNaturalist ) are not mutually exclusive. The same observation may show up on more than one Project or Platform. Nevertheless, Projects of this nature encourage, acknowledge and reward citizen scientists and they introduce an element of competition.

### EXAMPLE OF A KEY FUNGI-SPECIFIC INATURALIST PROJECT “FUNGI OF PENNSYLVANIA”

Created 12/3/2022, the **Fungi of Pennsylvania iNaturalist Project** (<https://www.inaturalist.org/projects/fungi-of-pennsylvania>) provides some up-front context for looking at the nature of fungal related citizen science in Pennsylvania.

**This Project is about all of the Fungi, including lichens, found in Pennsylvania.** The Mycological and Protists Technical Committee of the Pennsylvania Biological Survey plans to use this project to support fungi conservation efforts in our state.

<http://www.pabiologicalsurvey.org>

<http://www.pabiologicalsurvey.org/pabs-technical--standing/mycology-technical/>

<https://www.inaturalist.org/projects/pennsylvania-biological-survey-pabs-inat-page>

**Early Project Statistics: As of 2:00 pm on March 13, 2023, an overview of the statistics on this site revealed: 206,159 observations of fungi PA inclusive of 2,797 species and 4,044 identifiers. Observations were provided by 19,352 observers. The majority of these observations were made and reported by citizen scientists. The statistics for research grade observations (=ID verified by 3 identifiers) include” 75,644 observations, 2,079 species, 2,864 identifiers, and 9,033 observers.**

Everyone that contributes to iNaturalist is acknowledged along with the extent of their contribution. Many of these “citizen scientists” refer to themselves as “naturalists.” As previously noted, as of March

13, 2023, there were 19,352 observers that collectively made 206,159 observations of fungi and uploaded these observations to iNaturalist. These observations resulted in the identification of 2,797 fungal species throughout Pennsylvania, see Figure 1. Roughly two thirds of the 206,159 observations were made by 500 observers or 25 percent of all observers (=contributors). The point being there are dedicated mycophiles that concentrate on and actively look for fungi and develop the expertise needed to identify what they (and others) find. On the other hand, most citizen scientists are likely naturalists that populate iNaturalist with observations of whatever they see whether flora, fauna or the occasional mushroom.

While all citizen scientists are valuable, there are those that devote exceptional amounts of time and effort to finding and identifying fungi in Pennsylvania. To be fair, there should be 300 individual observers or more on this list, but two exceptional examples will have to suffice.

**1)** In Pennsylvania, John Plischke III holds all the iNaturalist citizen science type records. As of today John has the most observations (3,792), the most species (1,059) on the [Fungi of Pennsylvania · iNaturalist Project](#), and he has made the most identifications of fungi (78,951). For a glimpse of a super-citizen-scientist, access John's site on iNaturalist.

**2)** Dave Wasilewski is another super citizen scientist (a retired mathematician) with 11,497 observations of fungi from NE PA inclusive of 1,231 species in 418 genera. These data are recorded on the Mushroom Observer platform and are, for the most part, not duplicated on iNaturalist. For a look at Dave's My FunDiS Story, access: <https://fundis.org/resources/blog/141-my-fundis-story>

**FIGURE1. LOCATIONS OF INATURALIST FUNGAL SITES IN PENNSYLVANIA AS OF MARCH 14, 2023**



**Figure 1:** Dark shaded areas have more fungal observations than areas with lighter shading or no shading. Generally, the most observations correlate with the highest density of people, active mycology clubs, Universities (e.g. Penn State), and public forest land (e.g. Allegheny National Forest).

Many if not most iNaturalist participants do not specialize in fungi. Instead they are amateur naturalists that take photos of flora, fauna and the occasional fungus. The following quoted article speaks to the value of such observations and it provides examples of limited-area or specific-subject iNaturalist Projects.

## **iNATURALIST POWERS COMMUNITY SCIENCE**

[iNaturalist Powers Community Science - Pennsylvania Highlands \(pahighlands.org\)](http://pahighlands.org)

Pennsylvania Highlands

*By: Kimberly Witt, September 15, 2020 in [PA Highlands News](#) / To learn more, visit [pahighlands.org](http://pahighlands.org). Updated by Emma Coppock, February 19, 2021.*

*“Looking for a way to connect with nature in the [Pennsylvania Highlands](#)? Through iNaturalist, one of the most popular nature apps, you and your family participate in valuable community science or simply learn more about the plant and animal species in your region. This app allows scientists, students, adults and naturalists to connect and create a database with thousands of documented species. It can help you identify certain animals or plants you have never seen before, while simultaneously creating research-quality data for scientific projects. This data will help conserve and protect nature!*

*“There are so many benefits to community science projects facilitated through iNaturalist. These projects bring the power of community and technology together to collect data on the natural world and make it available to the scientific community. In turn, the data is carefully analyzed and informs important conservation decisions. iNaturalist community science projects get people involved in their local environment, which can lead to more knowledgeable and concerned people that advocate for change. Additionally, community science is a very cost-effective method to collect a variety of data points across large regions and time periods. The data submitted is verified by scientists, [yet the local community can help save valuable time and money by assisting with the research. The more people that participate, the more we all learn, and the more science leads conservation efforts.”*

**Note: Very likely most data is not verified by scientists. Compared to amateur citizen scientists, there are very few professional mycologists available for ID verification on the Mushroom Observer or on iNaturalist.**

*Start making a difference with iNaturalist.*

*“Choose 1 or more projects in the Pennsylvania Highlands, and become a community scientist!*

- 1) *Flowers and Fauna along the Appalachian Trail Corridor · iNaturalist*
- 2) *Spotted Lanternflies · iNaturalist*
- 3) *Birds of Lancaster County, Pennsylvania, USA · iNaturalist*
- 4) *Hopewell Furnace and French Creek Wildlife · iNaturalist*
- 5) *Flora of the Lower Susquehanna · iNaturalist*
- 6) *The Nature Conservancy in Pennsylvania & Delaware · iNaturalist*
- 7) *Birds of Franklin County, Pennsylvania · iNaturalist”*



## PENNSYLVANIA’S MYCO-HISTORY AND EVOLVING CITIZEN SCIENCE

Up until this Century, most fungi funders and documenters were professionals and students associated with academic institutions and herbaria. Their activities were technologically limited to Pre-Level 1 (Box 2) Technology. Color photos were expensive and there was no large-scale geo-referencing. For most of last Century, fungi finders did not have access to well-illustrated local and regional field guides, digital cameras, iPhones, or web-based Platforms like iNaturalist or the Mushroom Observer. Given these limitations, the results of this historical pre-Level 1 activity in Pennsylvania are nothing short of outstanding. By the end of the 20<sup>th</sup> Century few states, if any, could boast a checklist of over 7,000 fungi species.

### BOX 2

#### [A four-tiered model for crowdsourcing fungal biodiversity citizen science \(fundis.org\)](https://fundis.org)

Bill Sheehan (19 February, 2020) **discusses levels of citizen science involvement relative to finding, documenting and identifying fungi:**

*“Fungi may represent half of all multicellular life on Planet Earth<sub>1</sub> and are critically important to both humans and ecosystems, but they are poorly understood by scientists compared with plants and animals. We have nowhere near enough professional mycologists to document all of North America’s fungi. Although protocols are well-developed for collecting and documenting fungi, there simply are not enough trained professionals to get the job done. Funding and time to survey are just too limited.*

*“There are, however, literally millions of people who find fungi fascinating. The energy and intellect of interested amateurs can be extremely impressive. Unfortunately, not everyone who is interested in fungi has the skill sets or discipline to produce data of high quality.”*

*“Imagine a pyramid with a large base of citizen scientists doing basic field photo-documentation of fungi. A portion of those will want to “move up” to do more scientifically robust DNA sequencing of photo-documented specimens. And a subset of those will choose to do the “whole shebang”: make detailed field and lab descriptions, sequence specimens, and preserve dried vouchers in curated fungaria. Finally, the most motivated “super users” will engage in extracting DNA in home or school do-it-yourself labs; teach others how to analyze DNA sequences; and perhaps even describe new species.*

**Pre-Level 1. Find fungi,** document locations, collect specimens for identification and preserve well documented, dried specimens in a curated herbarium. (This level was added to account for history, which is not the subject of the following 4 levels.)

- **Level 1. Observe:** Document fungi in the field with geo-referenced color photos and post observations on public, databased platforms.
- **Level 2. Sequence DNA:** Level 1 + Submit tissue for DNA sequencing, interpret results.
- **Level 3. Voucher:** Levels 1&2 + Preserve well-documented, dried specimens in curated fungaria.
- **Level 4. Super-user:** Learn DNA technology, teach others how to analyze DNA results & make phylogenies; describe new species.”

## SOME PRE-LEVEL 1 PENNSYLVANIA MYCO-HISTORY

The results of Pre-Level 1 activity in the 20<sup>th</sup> Century have been reported in Volume 1, 1998. Inventory and Monitoring of Biotic Resources in Pennsylvania, Technical Coordinators: Jerry D. Hassinger, Robert J. Hill, Gerald L. Storm, and Richard H. Yahner: **Fungi: Review of Status in Pennsylvania** by C.B. Wolfe, Jr. pp 23 to 34.

### C.B. Wolfe Jr. reports:

A Preliminary Checklist of Pennsylvania Fungi was completed in 1996 based on:

- **20,193** specimen records from the Penn State Mycological Herbarium (**PACMA**)
- **6,050** specimen records from the Herbarium of the National Fungus Collections administered by the US Department of Agriculture (USDA) in Beltsville Maryland (**BPI**)
- **14,511** specimen records formerly housed in the Botany Department of the Carnegie Museum Herbarium in Pittsburgh (**CM**)
- **2,426** specimen records from the Academy of Natural Sciences (**PH**) in Philadelphia.

C.B Wolfe Jr. summarizes: ***“A total of 43,201 specimen records representing 7,447 species of fungi collected in Pennsylvania have been entered into the databases at the Penn State Mycological Herbarium at Penn State Mont Alto. These fungi were collected this century [20<sup>th</sup> Century] by professional, amateur, and student mycologists and plant pathologists.”***

Currently the **CM** specimens are housed in the Herbarium of the New York Botanical Garden, and : *“In November 2002 the **Mycological Herbarium of the Pennsylvania State University (PACMA)** was moved from Mont Alto, Pennsylvania, to the **U.S. National Fungus Collections**. The **PACMA** herbarium, which consists of about 67,000 specimens including about 1,000 type specimens, is being incorporated into **BPI** starting with the type specimens, Uredinales (rusts), Ustilaginales (smuts), Deuteromycetes.”* Refer to: [U.S. National Fungus Collections - Specimen Origins : USDA ARS](#)

*“The [U.S. National Fungus Collections \(BPI\)](#), (housed in the Mycology and Nematology Genetic Diversity and Biology Laboratory in Beltsville, MD) are the repository for over one million fungal specimens worldwide and are the largest such collections in the world. Information associated with these specimens constitutes an enormous data resource, especially about plant-associated fungi. Data from the labels of more than 750,000 of the specimens have been entered into a database.”*





## **NEW DIRECTIONS, THE EXPERT CITIZEN SCIENTISTS** **ENGAGED WITH LEVELS 2, 3 AND 4 (SEE BOX2)**

**Pre-Level 1:** To reiterate, in the past and today fungi are often, maybe mostly identified by their shape, color and size as well as micro-features, e.g. spore shape, color, size and other technical descriptions of morphology. Both cameras and microscopes are helpful. Given fungi are structurally simple; classifications have typically been based on very few structures. Fungi field guides illustrate repetitive examples of a few of these structures.

**Level 2 to 4:** Sequencing DNA means determining the species specific, unique order of the four chemical building blocks - called "bases" - that make up the DNA molecule. In recent years, DNA sequencing has resulted in the better identification of fungi. Instead of a few identification characters, fungal taxonomists and expert citizen scientists now have an almost unlimited number of characters to help name a species of fungi or to find a new species. Slowly but surely expert citizen scientists and professional mycologists are migrating from the use of microscopes to the use of DNA sequences to name fungi. Some consequences of switching from morphology to DNA sequences will be the validation or refutation of old records, and new species will be found. Another consequence of using DNA sequencing is that with minimal training non-experts in fungal morphology can identify many more species.

A few members of The **Western Pennsylvania Mushroom Club** (WPMC) are aggressively pursuing DNA barcoding and sequencing. For a detailed explanation of this process, access the following links which are available on the WPMC website: Web: <http://wpamushroomclub.org/>

### **WPMC: DNA BARCODING PROJECT    WPMC: INTRODUCTION TO DNA BARCODING**

The **Wyoming Valley Mushroom Club** sponsored both a North American Mycoflora Project (NAMP) and a Fungal Diversity Survey project (FunDiS). As a NAMA affiliate the club qualified for grants covering costs associated with sequencing collections. The links below may be followed to see the results.

<https://mushroomobserver.org/observations?project=324>

<https://mushroomobserver.org/observations?project=240>

<https://mushroomobserver.org/observations?project=241>

While not a Pennsylvania centered myco-resource, the San Diego Mycological Society, CA provides a useful example that stresses the value of citizen science and Barcoding; **refer to Box 3** and the accompanying links.

“Volunteers from the San Diego Mycological Society (SDMS) for example, began vouchering mushroom specimens gathered during their forays in the SD Herbarium at the San Diego Natural History Museum, with the goal of eventually creating a synoptic collection of mushrooms for the county. Inspired by participation in a recent workshop on barcoding held at the University of California San Diego, some SDMS members quickly realized that they could take what they were already doing to the next level, by also taking fresh tissue samples from the specimens that could be subsequently used for DNA barcoding. This was seen as a win-win for the SDMS.”

“Going forward, SDMS will be promoting their new mushroom barcoding project to help increase public awareness about barcoding, local conservation issues, and the world-wide significance of San

Diego's biodiversity. In addition, this interesting pilot project will strengthen the efforts of the San Diego Citizen Science Network to encourage and inspire citizen science projects locally. Most importantly, the barcoding data that are generated will be added to BOLD so that it can be shared with, and used by the scientific community."

### BOX 3

#### [San Diego Mycological Society](#)

**Educate and disseminate scientific information about mycology, the study of fungi**

#### **Mushroom Barcoding Project**

Volunteers from the San Diego Mycological Society have been vouchering some of the mushroom specimens gathered during their forays in the SD Herbarium at the San Diego Natural History Museum, with the goal of eventually creating a synoptic collection cataloguing the mushrooms of our county. Read our short article "[Barcoding Mushrooms in a Biodiversity Hotspot](#)".

In 2014, we began preserving tiny tissue samples from the specimens so they could be DNA barcoded. Barcoding <http://www.ibol.org/phase1/about-us/what-is-dna-barcoding/> is a new system of species identification and discovery that is being used worldwide (see [iBOL](#)). The sequence of a short section of DNA taken from a standardized region of the genome provides a unique code that can be used to identify different species.

In 2019, we began a DNA Barcoding Citizen Science Project in conjunction with the North American Mycoflora Project. See <http://mycoflora.org/> and this video at [https://www.youtube.com/watch?time\\_continue=1&v=ndRNaZVqUas](https://www.youtube.com/watch?time_continue=1&v=ndRNaZVqUas)

Our main purpose in cataloging the variety of mushroom species of San Diego County is to broaden the scientific understanding of local biodiversity, as part of the San Diego Barcode of Life. See <http://sandiegobarcodeoflife.org/>

We also want to promote involvement in citizen science and foster science education/outreach in our community. See <https://sandiegocitscinetwork.wordpress.com/> San Diego is a globally recognized biodiversity hotspot with many rare, threatened and endangered species, so it is important that they are all documented before they are lost to climate change, urban development, and/or wildfire.

Please contact us at [sdmyco@gmail.com](mailto:sdmyco@gmail.com) with any questions about the project and how you can get involved. Click the following hyperlinks for printable PDF [Voucher Slips](#) and [Instructions](#)



## FIELD GUIDES AND LINKS TO ON-LINE FUNGAL IDENTIFICATION WEBSITES

Fungal identification via DNA sequencing notwithstanding, pre-Level 1 fungal, identification techniques are still popular. A first step for many budding citizen scientists is to purchase a field guide and start comparing what they find with the photos and descriptions in the field guide. Some of the popular, general field guides (available on Amazon) that cover Pennsylvania and the Northeast include:

- Google Alan and Arleen Bessette, they authored a number of taxon, area and era-specific field guides.
- National Audubon Society Field Guide to North American Mushrooms by: Carol Nehring and Gary Lincoff 1981, pp 928
- **Field Guide to Wild Mushrooms of Pennsylvania and the Mid-Atlantic** by: **Bill Russell** Penn State University Press ([www.psupress.org](http://www.psupress.org)). 2017. Paperback, 284 pages
- Mushrooms of Northeast North America: Midwest to New England Paperback – 1999 by: [George Barron](#) (Author) Paperback 336 pages
- Mushrooms of the Northeastern United States and Eastern Canada (A Timber Press Field Guide) Flexibound – Illustrated, July 12, 2017 by Timothy Baroni 599pp
- Mushrooms of the Northeast: A Simple Guide to Common Mushrooms (Mushroom Guides) Paperback – 2016 by [Teresa Marrone](#) (Author), [Walt Sturgeon](#) (Author) 288 pp
- Peterson Field Guide to Mushrooms of North America 2021 by [Karl B. McKnight](#) (Author), Joseph R. Rohrer (Author), Kirsten McKnight Ward (Author), Kent H. McKnight (Author) 413 pp
- Macrofungi Associated with Oaks of Eastern North America 2008 1st Edition by [Denise Binion](#) (Author), [Steve Stephenson](#) (Author), [William Roody](#) (Author), [Harold H. Burdsall](#) (Author), [Orson K. Miller](#) (Author), [Larissa Vasilyeva](#) (Author) 467pp
- Appalachian Mushrooms: A Field Guide by Walter Sturgeon 2018, 496 pp
- Good Mushroom Bad Mushroom 2011 by: John Plischke III 86pp

## LINKS TO A FEW OF MANY FREE ON-LINE FUNGAL IDENTIFICATION WEBSITES

- **FungusID | AI-powered Wild Mushroom Identifier** <https://fungusid.com>
- Wood decay fungi – Messiah University [Wood decay fungi \(messiah.edu\)](http://www.messiah.edu/wood-decay-fungi)
- Mushroom Expert <http://www.mushroomexpert.com/>
- Amanitaceae.org <http://www.amanitaceae.org/>
- California fungi [https://www.mykoweb.com/CAF/species\\_index.html#1\\_18](https://www.mykoweb.com/CAF/species_index.html#1_18)
- Mycoquebec (right click on text to translate) <https://www.mycoquebec.org/bas.php?trie=C&l=I&nom=Clitocybula%20oculus%20/%20Collybie%20%C3%A0%20ocelle&tag=Clitocybula%20oculus&gro=%2027>

## PENNSYLVANIA'S MYCOLOGICAL ORGANIZATIONS

Area specific mycological organizations represent the core and major driver of myco-related citizen science in Pennsylvania. Most dedicated mycophiles belong to a mycological organization or mushroom club. First a look at the big picture; nationally there are two major organizations that help support Pennsylvania's mycological community. Also refer to Appendix 1.

### NORTH AMERICAN MYCOLOGICAL ASSOCIATION

[ABOUT - North American Mycological Association \(namyco.org\)](http://namyco.org)

#### Mission and Purpose

The North American Mycological Association (NAMA) is a 501(c)(3) non-profit organization of professional and amateur mycologists with over 90 affiliated mycological societies in the United States, Canada, and Mexico.

- NAMA is committed and dedicated to the promotion of scientific and educational activities related to fungi.
- NAMA supports the protection of natural areas and their biological integrity.
- NAMA advocates the sustainable use of mushrooms as a resource and endorses responsible mushroom collecting that does not harm the fungi or their habitats.

#### What NAMA Does

**Conferences** — Holds an annual conference/foray in different parts of North America, often with short courses in mycology, always with lectures by professional mycologists.

**Regional forays** — Organizes gatherings where learning and social time are encouraged.

**Newsletter** — Publishes *The Mycophile*, which gives mycological news and reports, notices of events of interest to members, reviews of recent books, and poison information.

**Journal** — Publishes *Miclavinea*, a peer-reviewed journal, with scientific papers on all aspects of fungi, toxicology reports, and topics of general interest - with articles by leading professional and amateur mycologists.

**Photo Contest** — Conducts an annual photo contest and publishes the results.

**Educational Programs** — Provides teaching kits and activities for K-12 grade levels and professionally produced CDs for club use.

**Scholarship** — NAMA funds an annual fellowship with the Mycological Society of America to promising graduate students in mycology.

**Speakers Bureau** — Maintains a list of over 50 speakers who are available to give programs for affiliated clubs.

**Toxicology** — Provides expertise in mushroom poisoning information on the web and through a group of identifiers for doctors and veterinarians.

**Discussion groups** — Hosts a discussion group for members and can organize more specialized groups as needed.



## NORTHEAST MYCOLOGICAL FEDERATION

[ABOUT US – Northeast Mycological Federation \(nemf.org\)](#)

NEMF was incorporated as a New York not-for-profit organization with the following mission: **“To stimulate interest in mycology and to provide a forum where both amateur and professional mycologists can share their experiences and knowledge and work together cooperatively in studying the fungal flora of Northeastern America for scientific and educational purposes....”**

**NEMF’s main activity is its annual foray** (See below!).

On a rotating basis member clubs or groups of clubs host three days of fungus collection and identification, lectures and workshops. Topics often include fungus identification, mycophagy, medicinal uses, textile dyeing, papermaking and photography.

The first **NEMF Foray** was held at PEEC, Pocono Environmental Education Center in Pennsylvania. Currently, the Federation consists of about twenty-two clubs, ranging from Canada to Pennsylvania and New Jersey.

### FORAY CENTRAL

**This section of the website is for member clubs that are facing the huge task of hosting a foray. Here you’ll find information that we hope will help you put on a great event.**



## PENNSYLVANIA’S ORGANIZED MYCO-COMMUNITY

### Susquehanna Valley Mycological Society

67 Spencer Road

Owego, NY 13827-2426

Web: [www.svmsonline.org](http://www.svmsonline.org)

Contact: Clay Martin, [claymartin@martinworks.com](mailto:claymartin@martinworks.com)

President: Stacey Kalechitz

Member since 1993 | Club Trustee: Clay Martin

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The Susquehanna Valley Mycological Society (S.V.M.S.) is a non-profit organization and was founded in 1992 by ten people in the south central New York State region who had a common interest in mushrooms.

**MEMBERS, WAKS AND FORAYS**

Currently club membership varies; currently it is about 120. We have 3 events and 3 forays per year. All forays exceed 3 hours and consist of 25 to 30 participants. Forays are held on the same sites every year. Foray results have not been uploaded to iNaturalist, but some results can be accessed here: <http://www.svmsonline.org/findlists.shtml>

Most of our activities are in Broome and Tioga counties in New York, and Susquehanna county in Pennsylvania. S.V.M.S. is charter member of North America Mycological Association (**N.A.M.A.**) and Northeast Mycological Federation (**N.E.M.F.**). Both of these organizations are comprised of almost all of the Mycologists in the Western Hemisphere. We have a wealth of knowledge at our fingertips. You could have that also.

**Join our club** and walk the mycologically rich forests of New York and Pennsylvania with us. We have **three to four annual forays** from the spring through the fall each year. These forays offer you a chance to learn more about the local varieties of fungi and enjoy the company of fellow mushroom minded people.



## Central Pennsylvania Mushroom Club (2023)

71 Long Lane East, Rimersburg, Pa 16248

Web: <http://www.centralpamushroomclub.com/>

Email: Cpmc31@yahoo.com

President: Chris Cicciarelli

Member since 2010 | Club Trustee: John Traister

This club was organized by a group of mushroom enthusiasts who understood the demand for such a club in the central regions of Pennsylvania. The purpose of the club is to provide a forum for sharing knowledge about identifying, collecting, both edible and inedible wild mushrooms. Our mission is educational, which is to study, protect, and enjoy wild mushrooms. We host mushroom walks and forays throughout the region during the growing season. The club also offers a \$600 research grant to help fund student research in mycology.

To join, please download, print and fill out the [application form](#). The completed form can be mailed with payment to: Central PA Mushroom Club, 71 Long Lane East, Rimersburg, PA 16248 or, you can pay in person at one of the club events. Club membership dues are \$20/person per year. Those who join after September 30 of a given year will be considered to be paid up until the end of the year following.

**BENEFITS OF CPMC MEMBERSHIP**

- Mushroom walks through the season with one or more experts.
- Meet and exchange information with other mushroomers and have access to our experts for help with mushroom identification.
- Discounted registration for the annual Bill Russell Foray.
- E-mail notification of club events.

- Free embroidered club patch (for new members) and annual membership card.
- Access to club resources (at meetings and events) such as a microscope and guide book.
- The opportunity to learn and also to teach. We are a curious bunch and our members all bring some specialized knowledge and perspective to the club. While we focus on mushrooms at our meetings, the informal chatter before and after is likely to include topics ranging from flint knapping to bee keeping.

## ABOUT US

We are a club made up of a diverse group of people. We have members who work in the sciences, members who work in the arts and members who do everything in between. Some of our members wear a white shirt to work and some wear blue – actually, a lot of us wear mostly earth tones.

The club typically meets once a month from February through November. The very early and very late meetings are usually held indoors and involve a program of some sort and, sometimes, food. In March we usually hold a member only mushroom cultivation workshop. The majority of our meetings are held outdoors (mostly at state parks) where we organize into groups to look for mushrooms. These mushroom walks usually last anywhere from an hour to an hour and a half. At the conclusion of the walk we meet back at our starting place to work on identifying what we have found.

Our more knowledgeable members talk about the identifying features of the mushrooms that they know and, when they are stumped, the guidebooks are consulted. Beginning and intermediate level mushroom enthusiasts can learn a lot during these ID sessions. Books are great learning tools but nothing is as good as seeing, touching, and smelling the actual mushroom and getting an accurate identification from an expert in the field.

## BILL RUSSELL FORAY

In 2013 the members of the Central Pennsylvania Mushroom Club voted to name our annual foray, the Bill Russell Foray. The naming is an acknowledgment and appreciation of the extent to which Bill has raised awareness of mushrooms and made their study accessible to amateur mushroom enthusiasts in Pennsylvania and beyond. The Central Pennsylvania Mushroom Club would not exist in its current state without Bill. He has mentored many of the members since long before the club was founded and his eager willingness to share his extensive knowledge at mushroom walks and identification sessions has influenced countless others.

## BILL'S BOOK

Bill Russell has been giving mushroom workshops, walks, and talks since 1960. In 1992 he developed unique mushroom cultivation methods that resulted in his business, Mushroom Kingdom Laboratories, which specializes in the commercial propagation of wild mushrooms. Founder and past president of the Central Pennsylvania Mushroom Society, Russell is a longtime resident of State College, Pennsylvania.

Bill's 2006 book, *Field Guide to Wild Mushrooms of Pennsylvania and the Mid-Atlantic*, is an excellent guidebook as well as an entertaining read. We are very fortunate to have Bill as an active member of the Central Pennsylvania Mushroom Club.

<https://www.amazon.com/Mushrooms-Pennsylvania-Mid-Atlantic-Keystone-Books%C2%AE/dp/0271028912>

## Eastern Penn Mushroomers

393 Waters Road

York, PA 17403-4751

Web: [www.epennmushroomers.org](http://www.epennmushroomers.org)

Email: [epmclub@gmail.com](mailto:epmclub@gmail.com)

Contact: Mike Mettler Email: [mmettler8522@gmail.com](mailto:mmettler8522@gmail.com)

President: Tom Warman

Member since 1994 | Club Trustee: Roseann Sachs

### MEMBERS, WAKS AND FORAYS

Currently the club has 153 members. There are 22 forays per year including one per week in April and May and then two per month from June to December. Each foray is about 1.5 to 2 hour in the field and an equal amount of time identifying what was found. Foray participation is variable and weather dependent; sometimes there are a few as four, another time 30 might show up. Participation in a bioblitz is irregular. Eighty percent of our forays are in the same sites that were forayed before and 20 percent of our annual forays are in new areas.

Eastern Penn Mushroomers is a club for people who want to improve their skills at identifying wild mushrooms and other fungi for culinary purposes, photography, taxonomic studies or just increasing their enjoyment and appreciation of these unique organisms. Any and all are welcome, no matter what your level of experience.

**EPM offers two annual membership options:** Individual Membership \$15; Family Membership \$20; (+\$1 fee if payment via PayPal)

### BENEFITS OF MEMBERSHIP INCLUDE:

- Our quarterly newsletter, **The Keystone Cap**, which provides the upcoming foray schedule, fungi-related articles, and news.
- Access to our online collaboration platform on Groups.io, where members share information, seek and offer help with fungi identification, post photos, and more.
- Club-sponsored forays, one to two times per month, from April through November/December in diverse geographic locations, most within an hour to an hour and a half drive from the Lancaster area.
- Member-only access to our spring forays in April and May.
- Indoor winter meetings during the months of January, February, and March, which include presentations and/or demonstrations by renowned speakers and club members.. These are held in the meeting room of Nixon County Park near Jacobus, PA. During the Covid pandemic, meetings are held via Zoom.
- Invitation to our annual members-only tasting party where members share their favorite mushroom dishes and socialize.

### ABOUT US



Mushroom clubs are made up of people from all walks of life who share a common interest in the study of mushrooms, each with their own areas of interest and expertise. When members share their knowledge, the club is enriched. If you are new to mushroom hunting, joining a mushroom club will give you the opportunity to learn about the numerous fungal species found during the annual cycle and how to identify them properly and safely. If you are an experienced “shroomer,” new to our area, we welcome your knowledge and companionship.

EPM is a club for people who are interested in the observation, identification, and collection of wild mushrooms and other fungi for culinary, photographic, dyeing, or taxonomic purposes or for just increasing their enjoyment and appreciation of these unique organisms. Any and all are welcome, no matter what your level of experience.

### **Activities**

We foray primarily on public lands and emphasize safe consumption and sound conservation practices. Most foray locations are within an hour to an hour and a half drive from the Lancaster area. The spring forays in April and May are **limited** to club members only. Most other forays and events are open to the public.

During the winter months of January, February, and March, indoor meetings are held and include presentations and/or demonstrations by renowned speakers and club members. In the summer, we hold a tasting party where members share their favorite mushroom dishes.

Each summer, Eastern Penn Mushroomers sponsors the annual 2 ½ day Helen Miknis Memorial Foray at sites in the Michaux State Forest. Meals and overnight accommodations (for which separate fees are charged) are available on a first-come first-served basis to those who register in advance.

Eastern Penn Mushroomers is affiliated with the North American Mycological Association (NAMA). Members of our club can join NAMA for a discounted fee.

### **History**

Eastern Penn Mushroomers club formed in the spring of 1994. Walks in Lancaster Central Park sponsored by the Lancaster County Parks commission helped generate a list of people interested in nature and especially wild mushrooms. After a program of mushroom slides borrowed from the North American Mycological Association, a group met and agreed that a club where one could find compatible friends interested in hiking, nature, and the study of mushrooms and other fungi was needed in eastern Pennsylvania. The Lancaster County Park Commission offered us a lecture room and help with publicity in their bulletins as well as in the local papers. We’ve grown greatly since then and have members in Pennsylvania, Maryland, Virginia, and other states.



## **Western Pennsylvania Mushroom Club**

c/o Barbara Deriso  
 70 Woodland Farms Rd, Pittsburgh, PA 15238  
 Web: <http://wpamushroomclub.org/>  
 YouTube Channel: <https://www.youtube.com/channel/UCUadsnAVTMINFM0gIHO4WjA>  
 Contact: Valerie Baker, [contact@wpamushroomclub.org](mailto:contact@wpamushroomclub.org)  
 President: Stephen Bucklin  
 Member since 2000 | Club Trustee: Garrett Taylor

**[HOME](#)**   **[EVENTS](#)**   **[ABOUT THE CLUB](#)**   **[EDUCATION & SCHOLARSHIPS](#)**   **[DNA BARCODING PROJECT](#)**

**[INTRODUCTION TO DNA BARCODING](#)**   **[RECIPES](#)**   **[NEWSLETTER & PRESS](#)**   **[PHOTOS](#)**

**[MUSHROOM CATALOG](#)**

**MEMBERS, WAKS AND FORAYS**

WPMC ended 2022 with more than 1,060 members in 506 households. It's estimated by the end of 2023 membership will be close to 1,000. Last year there were 34 walks, plus 2 days that were part of the foray. There were an additional 2 walks that were canceled for weather. Finally there were 2 mushroom classes. This is pretty average. High number was 45+ walks in a year pre-covid. Walks are typically three hours. One two hours looking for mushrooms and one hour identification all in the field. Longer walks are the Lincoff foray walks at North park, with 5 x 3 hour walks. The standard walk numbers vary between 5 and 50, probably averaging 20, but it really depends on the location, weather, time of year etc. For the Lincoff foray at Cook forest it was over 60 on a Friday. The main foray on the Saturday at North Park was limited by the number of people we were allowed in the building for the afternoon talks. Last year we moved to a larger venue and I think we had a limit of 150 people. When invited we participate in one bioblitz per year. It is up to the walk leaders where they choose to run a walk. I have ~100 Western PA locations on record. Some locations we go to multiple times a year, some every few years and some only once. There are a few new locations every year and we are always looking for more good locations. Species lists are uploaded to the Website and available in an online report. We don't ask walk leaders to document all finds on iNaturalist; it is up to the walk attendees to do that if they wish. We don't want to put an undue burden on walk leaders. Here is our guide:

<https://wpamushroomclub.org/about/walk-leader-guide/>

For the Lincoff foray, we do have an iNaturalist Project for each year. Last year there were two as one was for specimens selected for DNA barcoding.

<https://www.inaturalist.org/search?q=Lincoff%20foray>

**The Western Pennsylvania Mushroom Club was created in year 2000** to promote the enjoyment, study, and exchange of information about wild mushrooms. Everyone who has an interest in wild mushrooms is welcome to become a member. Activities include regular meetings, projects centered on mushrooms, and walks and forays.

**JOIN**

There is no better way to learn mushrooms than to join a mushroom club. We typically hold nine informative meetings a year on the third Tuesday of the month March through November, as well as numerous walks and forays to help you learn about mushrooms. Check our [Events](#) page for a list of

all upcoming meetings, walks, and forays! The cost is \$15 for an individual, \$20 for a family membership, and \$10 for a full time student. Print the [Membership Application](#) and send it in with your dues to receive discounts on club events and mushrooming materials. You can also join [online](#).

#### **ABOUT US: APPOINTED COMMITTEES**

- (1) **Webmaster:** Shall maintain an internet webpage for the Club.
- (2) **Walk Committee:** Shall organize and coordinate walks and forays for the Club, and support volunteer field trip leaders.
- (3) **Fall Foray Committee:** Shall be responsible for the arrangements of the annual Fall Foray.
- (4) **Hospitality Committee:** The Hospitality Chair shall provide refreshments at Club meetings and Mushroom Education Day, as requested.
- (5) **Membership Committee:** Shall respond to inquiries about WPMC, sending information packets to such inquirers. The chair of the Membership Committee will maintain the official records of membership to include addresses, telephone numbers, email addresses, dues records, and other relevant information of each current member.
- (6) **Newsletter Committee:** Shall develop plans and contribute educational articles for the Club's Newsletter. The editor of the newsletter, who is responsible for its publication, shall Chair the Committee.
- (7) **Photography Committee:** The Committee shall conduct a yearly Photography Contest.
- (8) **Program Committee:** Shall coordinate speaking engagements and participation by the Club in exhibits, fairs, and similar functions. Shall coordinate activities organized by specialty committees such as cultivation, mycophagy, photography, taxonomy, toxicology, and other subjects as appropriate. The committee shall be responsible for arranging guest speakers for the Club's meetings.
- (9) **Publicity Committee:** Shall be responsible for the publicity program of the Club, to insure media coverage of significant club activities and promote public awareness of the Club's objectives
- (10) **Mycological Recording Committee:** Shall be responsible for recording and maintaining a list of all mushrooms found at Club walks and forays.
- (11) **Mushroom Display Committee:** Shall have responsibility to display the mushrooms at the monthly and other Club meetings.
- (12) **Historical Committee:** Shall maintain copies of newsletters, photographs and other memorabilia for the Club's historical record.
- (13) **Cultivation Committee:** Shall organize, plan, and develop activities related to mushroom cultivation by club members.
- (14) **Workshop Committee:** Shall organize, plan, and develop activities related to the use of mushrooms in the area of arts and crafts.
- (15) **Education Committee:** Shall sponsor educational classes, organize, plan, and develop activities designed to increase the general knowledge of mushrooms and particularly mushroom identification abilities of club members and the general public.
- (16) **Toxicology Committee:** Shall provide consultation and advice and keep members informed regarding current mushroom toxicology.

(17) **Northeast Mycological Federation (NEMF) Trustee:** Shall represent the WPMC within NEMF and keep members informed regarding NEMF activities.

(18) **Scholarship Committee:** Shall recommend to the Board of Directors, Scholarship awards for academic endeavors and Grants for projects which encourage the recipients in the expansion of mycological knowledge. The goal of the Scholarship Committee is to provide support to projects, individuals, institutions, or events that promote the Club's mission of education, research, training, teaching, and increasing the awareness of wild mushrooming.

(19) **ID Button Committee:** The ID Button Committee shall evaluate lists of known mushrooms submitted by WPMC members and may approve ID Buttons. Any new designations of WPMC Identifier or Mycologist will require Board approval.

(20) **Communications Committee:** Shall send, by either electronic or postal mail, newsletters, announcements of monthly meetings, special meetings, walks and forays, etc.

(21) **Sales Committee:** Shall purchase and maintain a supply of books and other mushroom-related merchandise for sale at WPMC meetings and other events. Adopted: January 18, 2023 Page 8 of 12

(22) **DNA Barcoding Committee:** Shall collect and document specimens for DNA analysis; submit specimens and documentation to an outside laboratory for analysis; retain, analyze, and report results of DNA analysis.

(23) **Pennsylvania Department of Conservation and Natural Resources Representative:** Shall represent the WPMC within PA-DCNR and keep WPMC members informed.

## The Western Pennsylvania mushroom Club has a Project on iNaturalist WPMC Western Pennsylvania Fungi · iNaturalist



## Wyoming Valley Mushroom Club

239 Golf Course Road

Hunlock Creek, PA 18621

Phone: 570-256-9002

website: <https://wvmclub.wixsite.com/wvmc>

Contact: Dave Wasilewski, 570-256-9002

Email: [womingvalleymushroomclub@gmail.com](mailto:womingvalleymushroomclub@gmail.com)

President: Dave Wasilewski <[davew1061@gmail.com](mailto:davew1061@gmail.com)>

Member since 2011 | Club Trustee: Dave Wasilewski

### MEMBERS, WALKS AND FORAYS

Currently we have about 60 members; 40 are family and 20 are individual. The number of forays varies between 5 and 10 from year to year. Forays consist of 2 hour hunting and some club time discussing identifications. A few of us participate in 1 bioblitz per year. Forays are in both well-

established spots and some new spots every year. Foray results are uploaded to the **Mushroom Observer**.

Wyoming Valley Mushroom Club exists for the primary purpose of educating people about all aspects of wild fungi. Identifying wild mushrooms as edible entails certain risks. Some people are allergic to one type of mushroom that other people consume without ever experiencing any problem. For even a knowledgeable mushroom identifier, differentiating between an edible species and a toxic one occasionally requires more than having the opportunity to view a few photos. Also, an experienced mushroom hunter may readily recognize an edible species that a novice would tend to easily confuse with a different species. Some wild mushrooms are dangerously poisonous, possibly fatal. When in doubt, throw it out.

**About Us:**

Except for an occasional "special meeting" we are now meeting each third Thursday of the month beginning in March and ending with a celebratory meeting in December. Meeting locations vary; currently one location is Cosenza's Restaurant in Bear Creek, PA.

Membership fees are \$15 per individual, or \$20 for a family per year. For more information, email Dave Wasilewski at [davew@wyomingvalleymushroomclub.net](mailto:davew@wyomingvalleymushroomclub.net).

We are about: art; cultivation; culinary preparation; forays; identification; medicinal application; photography; research; and taxonomy.

The Wyoming Valley Mushroom Club, an affiliate of the North American Mycological Association, exists to inform and educate individuals on all aspects of wild mushrooms:

WVMC membership is open to ANYONE interested in wild mushrooms and other fungi related topics. Experience and knowledge can range from beginner to expert. While a large portion of the membership is interested in the culinary aspect, members also have specialized and diverse skills in such things as taxonomy, photography, & medicinal uses.

The yearly membership period is from Oct 01 to Sept 30. The cost for the year is \$15.00 for an individual membership, and \$20.00 for a family membership. Dues-paying members may also then join our closed Facebook group. If interested, email [wyomingvalleymushroomclub@gmail.com](mailto:wyomingvalleymushroomclub@gmail.com)

**Club Activities**

In addition to our monthly meetings, club members are welcome to participate in a variety of activities: wild mushroom forays, a wild mushroom fair, paint and sip events, photography contests, summer BBQs, and our year-end pizza party!



## Philadelphia Mycology Club

**Our mission:** to study, collect, and document fungi; to foster accessibility, diversity, and inclusivity through educating the community on fungi; and to steward the land and advocate for fungal conservation.

### MEMBERS, WALKS AND FORAYS

No paid membership; 4,400 followers on Facebook; 700 people on mailing list.

Forays per year: roughly 10 to 15 not counting leading mushroom hikes for other organizations; Forays are 2 hours hunting and 1 hour identifying. Forays include 20 to 50 participants. Forays are in State Parks close to Philadelphia; we have a short list of places we rotate through over time. Foray results are not systematically uploaded to iNaturalist, but various organizers and members upload some results to iNaturalist. We participate in the annual city nature challenge and other bioblitzes when they happen.

PMC was founded in 2018 by Bethany Teigen and has since grown to include a diverse group of novice and experienced mycologists. We work with other environmental groups in and around Philadelphia to provide free and accessible mushroom guidance in an urban setting and to work towards our common goals of environmental justice. We host forays, guided walks, workshops, in-person and virtual lectures, social events, and trash clean ups year round. Feel free to reach out to us for suggestions, recommendations, or requests. To join us on the trails, sign up for our mailing list [here](#) and follow us on social media. Being a member of the Philadelphia Mycology Club is free, but we encourage those who can to support our efforts by donating via PayPal at [info@phillymycoclub.com](mailto:info@phillymycoclub.com)

### FOR MORE INFORMATION:

<http://phillymycoclub.com/>

- <https://phillymycoclub.com/index.html>
- <https://phillymycoclub.com/about.html>
- <https://phillymycoclub.com/contact.html>
- <https://phillymycoclub.com/biodiversity.html>
- <https://phillymycoclub.com/resources.html>
- <https://phillymycoclub.com/events.html>

The Philadelphia Mycology Club has a [project](#) on iNaturalist



## A RELATIVELY NEW TREND LIMITED-AREA iNATURALIST PROJECTS

Short of organizing a mushroom club, there's the evolving potential for Nature Centers and other properties (public land-units, schools, parks ...) to open up a Project on iNaturalist. While Projects can accept observations of fauna, flora and fungi, a Project can be limited to observations of only fungi. iNaturalist has detailed instructions for creating a Project.

### FOUR EXAMPLES:

1) The **NED SMITH CENTER FOR NATURE AND ART** maintains 550 acres of mostly forested land in northern Dauphin County. Center Educational staff recently opened up a Project to "Help add to Ned Smith Center's ongoing project to document the flora, fauna and fungi found on the property." By 3/18/2023, 40 observers submitted 654 observations. In total observers found 341 species of fungi. Identifications were made or confirmed by 210 identifiers. Research grade observations (confirmed by 3 identifiers) totaled 399 or 61 percent of the 654 observations.

2) **HAWK MOUNTAIN SANCTUARY** maintains a 2,600 acre Sanctuary of mostly forested land located in Berks/Schuylkill Counties. The Project was created to act as a logbook of the different mushrooms and other fungi species that are found at Hawk Mountain Sanctuary. By 3/18/2023, 112 observers submitted 611 observations. In total observers found 173 species. Identifications were made or confirmed by 94 identifiers. Research grade observations (confirmed by 3 identifiers) totaled 295 or 48 percent of the 611 observations.

#### 3) **JACOBSBURG ENVIRONMENTAL EDUCATION CENTER**

Jacoburg State Park, PA, US · iNaturalist

446 of 468 species confirmed; fungi only: 56 of 63 species confirmed. Observers: 115 people  
WIKI: "The main purpose of Jacoburg Environmental Education Center is to provide environmental education for the citizens of Pennsylvania and specifically the students of the nearby elementary schools, high schools, colleges, and universities. Jacoburg stays busy offering hands on opportunities to these students and their teachers with a "discovery and problem solving" approach."

#### 4) **NOLDE FOREST ENVIRONMENTAL EDUCATIONAL CENTER**

Nolde Forest State Park, PA, US · iNaturalist

All species: 568 of 594 confirmed; only fungi: 68 of 73 species confirmed; observers: 110 people  
Wiki: " **Nolde Forest Environmental Educational Center** is a 665-acre (269 ha) Pennsylvania state park in Cumru Township, Berks County, Pennsylvania, in the United States. Programs are offered for youth and adult groups, school groups, and individuals. The center grounds provide opportunities for hiking, birdwatching, and nature photography. The park is open from sunrise until sunset. Nolde Forest Environmental Education Center is on Pennsylvania Route 625 just south of Reading.

Note: All such observations are also captured by the Fungi of Pennsylvania iNaturalist state-wide Project.



## THE POTENTIAL FOR LIMITED-AREA iNATURALIST PROJECTS IN PENNSYLVANIA

Compared to fungi, flora and the larger fauna are well known and the subject of numerous programs. Fungi on the other hand need more exposure. For this reason, the following suggestions are for fungal-only iNaturalist Projects. Such projects can support education, encourage competition and will eventually help pinpoint areas of high or low fungal diversity.

- In PA, forests cover 16.7 million acres; 11.9 million acres are owned by 738,000 households, and 4.6 million acres are publically owned. Public forests are by and large, with minimal restrictions (no commercial collecting), available for fungi finders.
- For management purposes 2.2 million acres of State Owned Forest are divided between twenty **State Forest Districts**; each fixed-area District has the potential to open and maintain a fungal Project on iNaturalist.
- DCNR's Bureau of **State Parks** manages 124 state parks totaling over 300,000 acres. Each Park, especially from the standpoint of education, has the potential to be an iNaturalist fungal Project (see page 22).
- There are 308 **State Game Lands** totaling over 1.5 million acres. Each Game Land or a combination of Game Lands has the potential to support an iNaturalist fungal Project.
- Open to free public access year around, the **Allegheny National Forest** (ANF) totaling approximately 517,000 acres includes 463,000 acres of forest, 42,000 acres of non-forest, and 11,000 acres are covered by water. From the shaded map on page (??) it's evident that the ANF already has a lot of fungal observation on iNaturalist. But as of this writing, the ANF still lacks a fungal –only Project on iNaturalist.
- **Nature and Environmental Education Centers** (Wikipedia lists 55 in Pennsylvania) are ideal sites for fungal only iNaturalist Projects. At least two of these sites, the Ned Smith Center for Nature and Art and Hawk Mountain Sanctuary, already have a fungal-only Project, see page??
- There are approximately 1,786 towns and cities in Pennsylvania. Each of these fixed-areas has one or more **Parks**. These discrete sites, especially for the larger cities, have the potential to support an iNaturalist Project. The two largest examples include: 1) Pittsburgh's 163 regional parks comprise nearly 3,800 acres. Taking advantage of this resource and some other sites the Western PA Mushroom Club has opened an iNaturalist fungal Project, see page?? 2) Philadelphia has total parkland comprised of 11,211 acres. This includes 7 large watershed parks, 143 neighborhood parks and squares, 156 recreation centers and playgrounds, 40 community gardens and orchards, 6 golf courses, and 3 environmental education centers. As previously noted on page ??, the Philadelphia Mycology Club, Pennsylvania's newest mushroom club, has already established a Project on iNaturalist to help "*study, collect, and document fungi; to foster accessibility, diversity, and inclusivity*



*through educating the community on fungi; and to steward the land and advocate for fungal conservation.”*

**SUMMARY:** From an area as large as the Allegheny National Forest (517,000 acres) to one as small (12.5 acres) as the Briar Bush Nature Center in Montgomery County, there are hundreds of opportunities to center fungal-only iNaturalist Projects on specific areas throughout Pennsylvania. The first step in this process is to find that key citizen scientist that will agree to set up and administer the Project.

## APPENDIX 1: CONTIENTAL INITIATIVES; PENNSYLVANIA INCLUDED

### PART 1

#### Fungal Diversity Survey (fundis.org)

**Our VISION:** a world in which the fungal kingdom is fully documented, understood, appreciated, and protected.

**Our MISSION:** FunDiS protects biodiversity through the conservation of fungi and their habitats by increasing knowledge and public awareness of their diversity and distribution, equipping and engaging community scientists, and partnering with land managers, conservationists, and scientists.

**What we do:** We equip community and professional scientists with the tools to document the diversity and distribution of fungi across North America.

**Why we do it:** To increase awareness of the critical role of fungi in the health of our ecosystems and allow us to better protect them in a world of rapid climate change and habitat loss.

#### **Who we're for**

We aim to engage all levels of mushroom lovers who want to contribute basic knowledge about fungal diversity and distribution.

## OUR PROGRAMS

### DIVERSITY DATABASE

**The Diversity Database builds critical knowledge about seasonality, distribution, and abundance of fungi and trains community scientists in how to scientifically document fungi.** Everyone can contribute high quality observations to the FunDiS Diversity Database on iNaturalist or Mushroom Observer. Help us turn hundreds of thousands of observations posted on these platforms into vetted databases that will be useful to scientists studying fungal diversity, the effects of climate change, and other impacts on distribution. Are you an experienced identifier who can provide feedback to database contributors about how to improve observation quality? The iNat database is up and running, and an MO counterpart is under development. **Start [here](#).**

### COMMUNITY SCIENCE PROJECTS

**You can help document fungal diversity by joining or starting a FunDiS project.** You can register a project and post observations online using our protocols. You can contribute at whatever level suits you best, and advance at your own pace if you want to do more. Our grant funds for sequencing have run out but you can still add observations. **Start [here](#).**

Join thousands of community scientists across North America. You'll contribute to what we (amateurs at all levels and academic mycologists alike) know about the wonderful Kingdom Fungi. You'll learn some fascinating perspectives about fungi and their role in ecosystems. You'll see some crazy beautiful fungi -

and likely some life forms you never thought were fungi. And you'll know your contributions to fungal science are important.

**RARE FUNGI CHALLENGES**

Rare Fungi Challenges document rare and threatened fungi in various regions of North America. Our pilot challenge, the West Coast Rare 10 Challenge, began in October 2020, and collected mushrooms from Alaska to California. The West Coast Challenge will continue, with 10 additional species, and a second Rare Fungi Challenge will be launched in summer 2021 in the Northeast (from Quebec to Pennsylvania) featuring 20 species. The Conservation Working Group crowdsources discovery of threatened fungi and fungi in critical and endangered habitats. [Start here.](#)

**NEW: NORTHEAST RARE FUNGI CHALLENGE**

**July 2022 - December 2027**

FunDiS's second Challenge, the **Northeast Rare Fungi Challenge**

launches on July 1st, 2022! [Learn](#) about the 20 target rare, threatened, or under-documented species and add your observations to [iNaturalist](#) OR [Mushroom Observer!](#) Help us find and document rare, threatened, or under-documented fungal species in the Northeast of North America. Scientists and conservationists need more data on these fungi in order to protect them. Your high quality observations can make a difference! The Northeast Challenge Region Includes: 9 States: CT, MA, ME, NH, NJ, NY, PA, RI, VT and 6 Provinces: NB, NF, NS, ON (East of 80.5°W long.), PE, QC

**PARTICIPATING IS EASY:**

The FunDiS Northeast Rare Fungi Challenge 2022 Species Booklet [View or download](#) the Booklet to print.

1. Decide which of the target fungi might be growing in a habitat that you are planning to visit.
2. Print out the booklet pages for the species you're interested in and bring it long, or have it handy on your phone.
3. If you think you've found one of the target fungi, follow the instructions in the booklet. Consider emailing us at [northeast\\_rare@fundis.org](mailto:northeast_rare@fundis.org) to let us know, and to ask any questions.
4. **We are also very interested in other fungi that you might find in these habitats.** Consider joining the FunDiS [Biodiversity Database](#) on iNaturalist and adding your observations to the project. Instructions are [here](#), if you're unsure how to do this.
5. Please get a collecting permit if you're thinking of visiting an area where collecting is restricted. More information can be found [here](#).

<i>Species list</i> <a href="#">View or download</a> the Booklet to print.		
<i>Amanita ristichii</i>	<i>Echinodontium ballouii</i>	<i>Pseudofistulina radicata</i>
<i>Boletus purpureorubellus</i>	<i>Entoloma flavoviride</i>	<i>Squamanita umbonata</i>
<i>Butyroboletus billieae</i>	<i>Helvella palustris</i>	<i>Tricholoma apium</i>
<i>Calliderma (Entoloma)</i>	<i>Hodophilus (Camarophyllopsis)</i>	<i>Tricholoma grave</i>
<i>indigoferum</i>	<i>peckiana</i>	<i>Underwoodia columnaris</i>
<i>Caloboletus peckii</i>	<i>Hypocreopsis rhododendri</i>	<i>Volvariella surrecta</i>
<i>Clavulinopsis appalenchiensis</i>	<i>Psathyrella epimyces</i>	<i>Wynnea sparassoides</i>
<i>Dendrocollebybia racemosa</i>		

## APPENDIX 1 CONTIENTAL INITIATIVES; PENNSYLVANIA INCLUDED

### PART 2

## 2023 CONTINENTAL MYCOBLITZ

<https://mycota.com/2023-continental-mycoblitz/>

### **Summer Continental MycoBlitz**

August 11 – 20, 2023 – [Project Link](#)

### **Fall Continental MycoBlitz**

October 13 – 22, 2023 – [Project Link](#)

Welcome to the second online, continental-scale mushroom-collecting foray! It is a part of our effort to document all of the macrofungi that exist in North America. The Continental Mycoblitz will be conducted in three parts this year – with dates available to optimize both east and west coast collections. To participate just review the requirements below, post your observations to the iNaturalist project during the foray week, and submit your ten (10) most interesting collections to our processing facilities. Thousands of specimens from the event will be selected for DNA sequencing. Your most interesting finds can help us to understand the mushrooms of North America. We look forward to discovering fungi with you!

#### **What is a MycoBlitz?**

You may have heard of a “BioBlitz” – an intense, and usually time limited survey of all of the organisms living in a given geographic area. A MycoBlitz is a similar survey, but with the focus solely on fungi. Participants work to catalog as many species as they can from the survey area, during the survey time period.

#### **Overview of the Process**

The 2023 Continental Mycoblitz is open to anyone who is willing to make scientifically valuable collections of mushrooms – including photography, field notes, and submitting a dried specimen. Any individual or organization can submit their most unique/interesting/exciting collections from the foray week to the project. Mycologists and foray partners will examine each collection and will perform DNA sequencing on thousands of the specimens that are submitted. The best collections will have geotagged color photographs of the mushroom from multiple angles, a completed field data slip, and properly dried mushrooms. You have the chance to make a significant contribution to our knowledge of fungi from North America by submitting specimens to this project.

### **How to Participate**

- 1. Download Voucher Slips** – Download and print your collection slips. These slips ensure the basic data is collected and help you to organize your collections.
- 2. Download the iNaturalist Mobile App** – Both Android and IOS versions are available. Check your preferred app store for the download. If you do not have a mobile device, you can participate by utilizing the web interface to report your observations.
- 3. Join the “West Coast Online MycoBlitz 2023,” “Summer Continental MycoBlitz 2023” and/or the “Fall Continental MycoBlitz 2023” projects on iNaturalist** – You can join from the mobile app or from your favorite web browser. You can join this project at any time.

### **During Foray Week**

- 1. Create new observations of mushrooms you encounter.** This can be done through the iNaturalist mobile app or web interface. With each new observation, be sure to select the project for your event and whether you collected the specimen. The mobile app uploads the photos to the reports online.
- 2. Take multiple photos of the mushrooms with your cell phone or camera.** Take a nice image near ground level from the side, as well as an image of the top, the stem, and the spore bearing surface (this gills or pores on the underside of the cap).
- 3. If you intend to save the specimen, take an image of the field data slip with the specimen.**
- 4. Enter the field data slip number into the “Voucher Number(s)” field in the mobile app or desktop browser.**
- 5. Collect the specimen. Store your field slip (or the portion with the number) with the specimen.** Fill out your field slip completely before you dry your specimens.
- 6. Back at home, dry the specimens with a dehydrator or fan.** Use the duplicate number at the bottom portion of the voucher slip to organize collections as they are being dried. Once they are cracker dry (usually 1-3 days) put the voucher slip and the specimen in a Ziplock bag. Please put the iNaturalist number (in the URL of your observations <https://www.inaturalist.org/observations/74930818>]; or bottom of observation on Android mobile / share on iOS to find number) and the species name on the voucher slips. This will save us a huge amount of time once we receive the collections.
- 7. Mail in your top ten (10) dried specimens – Mail your specimens to the appropriate collection center (found at the bottom of this page). All of the best specimens that are collected as a part of this event will have their DNA “sequenced” or examined. We are likely to find multiple species that are new to science during this event. Your collections could be part of this.**

## Frequently Asked Questions

**1. How are determinations made about which mushrooms are selected for sequencing?** There are three primary factors that will influence whether a specimen is selected for sequencing or not. The first is that the metadata is complete for the specimen and the quality of that data is high (geotagged color images from multiple angles, filled out field data slip, properly dried specimens, and the specimens are well organized). Secondly, the specimen must be well dried and in good condition. It should not show signs of decay before drying. Finally, we are looking for interesting/unusual specimens and specimens from undersampled groups. The more uncommon/interesting a particular species is, the higher the chance it will be sequenced.

**2. Do I have to fill out a data slip for each mushroom I see?** No, only for specimens you are collecting. If you are simply taking an image of a mushroom to document it, you do not need to fill out a field data slip for it. Just take the pictures and create a report of the observation online.

**3. Do I have to send 10 specimens in order to participate?** No. Even if you only want to take images and do not want to submit specimens, the observations you provide to the project can still be extremely valuable. Observational data helps us better understand the range and seasonality of even common species. You can also send less than 10 specimens to the event.

**4. Who is funding this project?** This project is currently being funded by the Hoosier Mushroom Society and Mycota Lab. This includes all DNA sequencing done nationwide, including for outside the state of Indiana. We would appreciate additional funding partners who would help to fund specimens from their own localities, particularly other clubs interested in their local biodiversity to help spread the cost around the country. If your club/organization would like to be a partner on this project, please [email us](#). If you are an individual who would like to donate to this project, and help us increase the number of specimens we can sequence, you can follow the QR code to donate. The Hoosier Mushroom Society/Mycota Lab is a 501c3 organization.



**5. Can I send in more than ten specimens for sequencing?** We are currently limiting submissions to 10 per individual collector. If the funding environmental changes by the time this event occurs, we may loosen this limitation. If you would like to fund your own additional sequencing for this event, there is a special rate of \$3.00 per specimen. So if you wanted to submit 58 additional specimens, you could include a check, money order, or PayPal payment of \$174 with your submission.

**6. Can we participate for multiple dates?** Yes, and you can submit up to 10 specimens per event – west coast, summer, and fall.

**7. Should I collect a mushroom if I cannot identify it?** Yes! Unidentified mushrooms are often the most interesting ones.

**8. What should I call the mushroom in the project if I do not know what it is?** Just call it “Fungi” and someone will come along and identify it for you.

**9. What if a mushroom is large. Do I have to collect the whole thing?** No, just collect a small portion, such as 1/4 of the cap. The best part to save is the top part with the gills/pores, rather than the stem.

**10. Do I need the field data slips in order to participate?** No, but it is strongly encouraged. It is tough to maintain organization without them. We highly suggest you download them to help keep track of which specimen is what. Specimens change significantly as they dry, so you will likely not be able to identify the mushroom later in the

process without some type of identifying number attached to it. If you do not have field data slips (or run out of them) use the iNaturalist number to keep track of your collections.

**11. What if I run out of field data slips?** You can [print more data slips](#) for the project at any time.

**12. What do I need to fill out on each field data slip?** The requested minimum information to fill out is the date, your name as the collector (you can use initials), the site name, and the collection date. The more information you are willing to save, the more valuable the report/specimen will be for science. Once your specimens are dry, please put the iNaturalist number for each collection on your voucher slips.

**13. Do I need to smell and taste each mushroom?** No, but this information is important for certain groups of mushrooms. These sections of the field data slip are optional, but encouraged. Also keep in mind that taste does not equal swallow. You can taste any mushroom without fear. Just gently chew a small bit of the mushroom and let it sit on your tongue for a few seconds to see if any specific taste starts to develop. Then spit the flesh out.

**14. What are the numbers on the bottom of the field data slip for?** The “Voucher Label for Drying” can be torn off and stored in your tackle box or basket with the specimen. This will allow you to keep the specimens organized with the pictures you take (be sure to take a picture of the field data slip with each specimen for the number and the scale bar on the side of the slip). The “Tissue Label” is not something we will be using as a part of this project. Please keep it attached to the field data slip with the specimens you send in.

**15. Do I have to upload the photos using the mobile app?** You have several options to get your images/reports onto iNaturalist. 1.) You can create reports using the mobile app in the field as you go along. If you do not have cell service, the app will store the individual reports until your phone is connected. 2.) You could take pictures in the field without using the mobile app, and upload individual reports later once you are back at home. (This is often the suggested method, as you don’t have to fuss with as much in the field and can spend more time enjoying nature.) Finally, 3.) You could take images with a regular camera and upload individual reports on the iNaturalist website through your computer browser.

**16. I am interested in photographing and collecting, but I will not be able to upload to iNaturalist until after the event week. Can I still participate?** Yes! We anticipate processing specimens for several months after the foray ends. We ask that you upload your observations to iNaturalist and mail in your samples as soon after foray week as possible, but if it takes a few extra weeks, that will still be acceptable.

**17. Can I use online platforms other than iNaturalist to upload my observations for this event?** Yes, but we would ask you to replicate them on iNaturalist. Our post-event data processing and aggregation is much easier if all of the observations are in a single location.

**18. Can you return the specimens that are sent in?** Unfortunately, we will not be able to return any specimens that are submitted. If you would like to ensure your specimens are retained, please only send a “split” or a portion of the collection to the processing facility. You are welcome to retain the remainder of your collection and submit it to a local herbarium.

**19. Do I need to fill out the “Collector’s Name” observational field for each record?** No, it only needs to be used if the name of the collector is different than the person submitting the observation. If you are primarily posting your own finds, iNaturalist has a “Display Name” field in your account settings that can be used for your real name. If this is filled out in your settings, then the name in this field will be associated with all downstream data, including the GenBank accessions.

**20. What if a new species is discovered? Who gets the credit?** iNaturalist has a “Collector’s name” field that can be filled out when submitting an observation, if the name of the collector is different than the person submitting the observation. The credit for the collection of a new species would go to the person who submitted the iNaturalist observation or the name of the individual in the Collector’s name field.

**21. Will this data be uploaded to GenBank?** Yes, every collection that is submitted and that has a DNA sequence successfully generated will be uploaded to GenBank immediately.

**22. Does harvesting mushrooms hurt the environment?** The short answer is no. It is misguided to think of harvesting mushrooms in the same terms as harvesting plants or other organisms. There have been multiple studies to explore this topic and none of found harvesting to have a negative impact on the mushrooms being harvested. Mushrooms are only the reproductive structure of the organism, like an apple on a tree. The main body of the organism lives under the ground or in the wood that you are harvesting the mushroom from. Walking through the woods off trail (ground compaction) is likely to have a greater impact on the environment than harvesting mushrooms. If harvesting large numbers of mushroom species had any detrimental impacts to the organism, we would be the first organization in like to discourage large-scale collecting.

23. I have more questions. Who can I contact? [info@mycota.com](mailto:info@mycota.com)

**Some final notes:**

Preference is to have snack or quart size bags without the plastic slide zipper.

Please include the field data slip in the bag with the writing visible from the outside.

It is fine to write on the exterior of the ziplock bag.

No need to write iNat number on exterior if it is visible on the field data slip from outside of the bag.

There is no need to include silica gel packets in the bags.

Please trim the field data slips down if you only printed one per page.

Please do not double bag individual specimens. It is fine to put all of your collections into a final gallon-size ziplock.

**Send your specimens to:**

**Steve Russell  
3912 S. Carey St.  
Marion, IN 46953**



## ADDENDUM

iNaturalist Projects on public Lands, especially when fungi samples are collected for DNA sequencing, require mycophiles to be familiar with the laws, rules and regulations that are designed to protect public natural resources. In some circumstances, permits may be required.

The Western Pennsylvania Mushroom Club provides a convenient review of some pertinent mushroom picking rules and regulations on Pennsylvania's public lands. And for their purposes and foray sites, they include the pertinent rules and regulations that protect Pittsburgh city parks and Allegheny County parks. Be aware that other cities and counties will have their own rules and regulations that protect natural resources on municipal and county parks and other public sites.

### MUSHROOM PICKING RULES & REGULATIONS IN PA by Richard Jacob | Nov 1, 2016

The following document is provided courtesy of the Western Pennsylvania Mushroom Club. <http://wpamushroomclub.org/> There's no legal advice intended, the laws and regulations are quoted.

There are a number of rules and regulations about picking mushrooms and selling them. The information provided on this page is not legal advice, but only observations based on WPMC's experience and, where possible, links to further information. Rules and regulations can and do change, so before loading up your basket please make sure to check the latest policies regarding mushroom gathering on public lands.

The Western Pennsylvania Mushroom Club does not endorse or support the commercial harvesting of wild mushrooms from any state, county or city park. There are specific rules for commercial harvesting and you should review those rules before harvesting mushrooms for sale. Recently, the Food and Drug Administration (FDA) developed guidelines about foraging for sale or buying foraged mushrooms to serve to the public in restaurants. This information has been collected on a separate page. We would like to thank Ryan E. Hamilton, Esq. from Fair Shake Environmental Legal Services for the presentation he made to the club in August 2016 that helped form the initial draft of this document.

WPMC does promote the gathering of mushrooms—where permitted—for recreational, educational and scientific purposes.

#### WHERE CAN I LEGALLY FORAGE?

Picking wild mushrooms is restricted on many public lands, but some areas do allow gathering for personal use. Depending on the authority there may be different rules for personal harvesting and commercial harvesting. The information below is not intended to be comprehensive. If you are uncertain about where you can forage, you should consult an attorney or park staff directly.

## PITTSBURGH CITY PARKS

Looking at the CODE OF ORDINANCES for the City of PITTSBURGH, PENNSYLVANIA we can see the following:

City Code § 473.01(a)(3) titled Removal of Natural Resources. “No person in a park shall dig or remove any soil, rock, stones, trees, shrubs or plants, down timber or other wood or materials, or make any excavation by tool, equipment, blasting or other means or agency.”

And

City Code § 473.01(b)(1) titled Injury and Removal of trees, shrubbery and lawns. “No person in a park shall damage, cut, carve, transplant or remove any tree or plant or injure the bark, or pick the flowers or seeds, of any tree or plant.”

Reference: § 473.01 – PARK PROPERTY.

## ALLEGHENY COUNTY PARKS

Looking at the Allegheny County, PA code Chapter 650: PARK RULES AND REGULATIONS we can see the following:

“The below-listed activities are specifically prohibited in any area lying within a County park. Exceptions to these prohibitions will be recognized only upon possession and presentation of a written authorization signed by the Director of the Parks Department, by signs posted by authorized representatives of the Director, or by immediate direction of a County police officer. B. Shrubs, flowers, trees, grass, turf, soil or rock formations. (1) Picking, cutting, breaking, digging, defacing or injuring in any way.” § 650-1 Prohibited activities.

Reference: § 650-1 Prohibited activities

The club obtains written permission, on an annual basis, to hold mushroom walks in Allegheny County parks. WPMC does not support or endorse mushroom foraging in Allegheny County Parks without written permission.

## PENNSYLVANIA STATE PARKS

For personal harvesting from State parks the rules are fairly clear. Part of the reason for this is that club member John Plischke III was involved in developing the wording of the rules.

Pennsylvania State park regulations:

- 11.211. Natural resources.

“(a) The following activities are prohibited except with written permission of the Department, or except as provided in subsection (b):

1. Cutting, picking, digging, damaging or removing, in whole or in part, a living or dead tree, shrub or plant.
2. Damaging, defacing, cutting or removing rock, shale, sand, clay, soil or other mineral product, natural object or material...

(b) The following activities are permitted:

1. Gathering edible fruits, nuts, berries and fungi, in reasonable amounts, for one’s own personal or family consumption. This permission does not apply to wild plants listed in Chapter 45 (relating to conservation of Pennsylvania native wild plants) as threatened, endangered, rare or vulnerable.”

Reference:

17 PA. CODE CONSERVATION AND NATURAL RESOURCES. PART I. DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES. Subpart B. STATE PARKS CHAPTER 11. GENERAL PROVISIONS and CHAPTER 45. CONSERVATION OF PENNSYLVANIA NATIVE WILD PLANTS

WPMC is not aware of any mushroom species currently listed in Chapter 45 as threatened, endangered, rare or vulnerable.

## **PENNSYLVANIA STATE FORESTS**

- 21.115. Natural resources..

“(a) The following activities are prohibited without written permission of the Department:

1. Cutting, picking, digging, damaging or removing, in whole or in part, a living or dead plant, vine, shrub, tree or flower, including fungus, lichen and moss, except as permitted in subsection (b) and § 21.120 (relating to ground blinds and tree stands).
2. Removing rocks, shale, sand, clay, soil or other mineral products.
3. Removing peat, bark, mulch, pine straw or other natural resources.
4. Planting a tree, shrub or plant.
5. Releasing an animal that was brought into a State forest.

(b) The following activities are permitted:

1. Gathering edible wild plants or plant parts for an individual’s personal or family consumption, unless the plant is listed in Chapter 45 (relating to conservation of Pennsylvania native wild plants) as threatened, endangered, rare or vulnerable.
2. Gathering dead and down wood for building fires on State forest land as permitted in § 21.118 (relating to fires).”

Reference:

17 PA. CODE CONSERVATION AND NATURAL RESOURCES. PART I. DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES. Subpart S. STATE FORESTS CHAPTER 21. GENERAL PROVISIONS and CHAPTER 45. CONSERVATION OF PENNSYLVANIA NATIVE WILD PLANTS

WPMC is not aware of any mushroom species currently listed in Chapter 45 as threatened, endangered, rare or vulnerable.

## **PA GAME COMMISSION PROPERTY**

Looking at the regulation of activities on Pennsylvania Game Commission property found in Title 58, we can see the following:

58 PA Code § 135.2. Unlawful actions.

“[I]t is unlawful, except with the permission of the person in charge of the lands, or the written permission of the Director to...

(2) Plant, gather, cut, dig, remove or otherwise injure plants or parts thereof, including trees, shrubs, vines, flowering plants, cultivated crops, mushrooms and fruits of berry-producing plants.”

58 PA Code § 135.41. State game lands.

“(a) Restrictions limited. The following exceptions to § 135.2 (relating to unlawful actions) pertain to lands and waters designated as State game lands: (1) Mushrooms and fruits of berry-producing plants may be picked...”

References:

58 PA Code § 135.2. Unlawful actions

58 PA Code § 135.41. State game lands

## **NATIONAL FORESTS (USFS)**

Allegheny National Forest (ANF) is Pennsylvania’s only National Forest. Fungi (Mushrooms) are included in the definitions of “Special Forest Products” & “Forest Botanical Products” found at 36 C.F.R. § § 223.216 and 223.277, respectively.

The Federal Code further states:

36 CFR §223.239 Free use by individuals.

“(a) Free use. A person may harvest a special forest product from National Forest System lands free of charge for personal, non-commercial use up to the amount or quantity authorized by a designated Forest Service officer, a Forest Supervisor, or a Regional Forester, as delegated at 36 CFR 223.8.”

“(b) Free use without a permit up to the incidental use harvest level. No permit is required for the free use of a special forest product at or below that product’s incidental-use harvest level, which shall be determined at the discretion of the regional forester or a subordinate officer. The incidental use harvest level covers small amounts of special forest products, such as cones, mushrooms, berries, acorns, black walnuts, or medicinal roots. Any free use of a special forest product that does not have an incidental-use harvest level is subject to this section’s permit requirements.”

References:

30 C.F.R. § § 223.216

30 C.F.R. § § 223.277

36 CFR § § 223.239

Restrictions vary among the individual National Forests, so make sure to find out the specifics when picking up your permit. In our area, mushroom gathering for personal use at Allegheny forest is allowed and we have been told that the allowance is 8 liters (2 gallons) plus 1 mushroom per adult per day although this can be revised at any time. If you wish to harvest more than this amount you will need to ask for a free permit.

For commercial harvesting you will need to contact the Allegheny National Forest for a commercial permit, which is beyond the scope of this document.

### **NATIONAL PARKS (NPS)**

Picking mushrooms is only allowed in some of the National Parks. As always, check with the specific National Park to check their rules and regulations. There are currently no National Parks in Pennsylvania.

### **PRIVATE PROPERTY**

It's never okay to pick mushrooms on private land without permission—always ask first.