

SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
Number 594 September 2023



WILD MUSHROOM SHOW

Derek Hevel

This year's co-chairs Derek Hevel, Milton Tam, and Marion Richards are happy to announce our annual PSMS fall Wild Mushroom Show will be **Oct. 28 (12–6 pm) and Oct. 29 (10 am–5 pm) at Shoreline Community College**, 16101 Greenwood Avenue North, Shoreline, WA.

The show is our chance to share with the general public our knowledge of and enthusiasm for the fungal kingdom. Let's get ready to amaze the public with all the colors, shapes, and sizes of fungi we bring in for display.

As always, we need YOUR help to make it happen! Year after year, we put on one of the largest and best shows on the West Coast. Volunteer for one or more tasks, including helping at the touch-and-feel table, cultivation, cooking and tasting, book sales, admissions, hospitality, and loading/unloading. Sign up online starting in mid-September at PSMS.org under "Events." Publicity posters and post cards will be distributed at the September meeting. And remember: As a volunteer, you'll get into the show for free, have access to that amazing potluck in the break room, and will be eligible to attend the volunteers-only Memorial Day field trip.

We will also need YOUR mushroom specimens for our display tables. The strength of the mushroom season has yet to reveal itself, but we know it's an odd year with heat waves and drought. We don't know when the rains will arrive, but we're all crossing our fingers for a well-timed fruiting in order to put on the best show.

We encourage you to self-organize for a collecting trip in the day or two before the show. Come mid-October, we strongly encourage members to forage far and wide to collect specimens wherever they can be found. As of now, experts have suggested collecting display specimens in the foothills of Mount Rainier, the Olympic Peninsula, and the Washington Coast. However it is impossible to predict when and where our mushrooms will

60th Annual 2023
Wild Mushroom Show

SHORELINE COMMUNITY COLLEGE
16101 Greenwood Ave N
Shoreline, WA

Saturday October 28th
Noon to 6pm

Sunday October 29th
10am to 5pm

Tickets at the Door
General: \$10
Students: \$5
12 and Under: FREE
Show Volunteers (Members): FREE

PSMS
PUGET SOUND MYCOLOGICAL SOCIETY

Visit PSMS.org for everything you need to know about the show!

flush. We encourage you to self-organize for a collecting trip in the day or two before the show.

We're counting on YOU to make the mushroom display happen!



AUSTRALIAN SUSPECTED OF POISONING HER IN-LAWS WITH WILD MUSHROOMS

The Jerusalem Post, Aug. 16, 2023

An Australian woman is under investigation after serving her former in-laws a lunch laced with poisonous mushrooms, killing three and putting another in critical condition.

The incident occurred on July 29 at the home of Erin Patterson, 48, in Victoria, Australia, where she prepared a beef Wellington, allegedly containing poisonous mushrooms, for her former in-

laws Gail and Don Patterson, along with Gail's sister Heather Wilkinson and her husband, Ian.

All four guests fell ill within hours with what they initially believed was food poisoning. A few days later Heather, 66, Gail, 70, and Don, 70, had died. Ian, 68, is in critical condition in a Melbourne hospital and fighting for his life as he awaits a liver transplant.

Authorities said that the victims displayed symptoms consistent with consuming Death Cap mushrooms [*Amanita phalloides*]—aptly named as they are considered the world's deadliest mushrooms.

cont. on page 4

Spore Prints

is published monthly, September through June by the
PUGET SOUND MYCOLOGICAL SOCIETY

Center for Urban Horticulture, Box 354115
University of Washington, Seattle, Washington 98195
(206) 522-6031 <http://www.psms.org>

OFFICERS: Colin Meyer, President^{2023–2025}
president@psms.org
Scott Maxwell, Vice President^{2022–2024}
vicepresident@psms.org
Brenda Fong, Treasurer^{2022–2024}
treasurer@psms.org
Carolina Kohler, Secretary^{2023–2025}
secretary@psms.org

TRUSTEES: 2023–2025:
Wren Hudgins, Marion Richards,
Sandra Ruffner, Pei Pei Sung,
Joe Zapotosky
2022–2024:
Kelsey Hudson, Marian Maxwell,
Anne Polyakov, Peg Rutchik,
Marcus Sarracino

ALTERNATE: Krista Luoto

IM. PAST PRES: Randy Richardson

SCI. ADVISOR: Dr. Steve Trudell

EDITOR: Agnes A. Sieger, 271 Harmony Lane,
Port Angeles, WA 98362
sieger@att.net

CALENDAR

Sept. 12 Membership meeting, 7:30 pm, CUH
Sept. 18 Board meeting, 7:30 pm, CUH board room
Sept. 26 *Spore Prints* deadline
Sept. 30 Field trip (see PSMS website member's page)
Oct. 7 Field trip (see PSMS website member's page)
Oct. 10 Membership meeting, 7:30 pm, CUH
Oct. 28–29 PSMS Wild Mushroom Exhibit

BOARD NEWS

Caroline Kohler

Greetings PSMS members!

The board has had a busy summer break. At our June meeting we took stock of our recent Social Event (which was very positive); discussed ways to improve the communication among members via our message boards (stay tuned for an upcoming tutorial by Marian Maxwell); and extensively debated options to better serve underrepresented groups in our club's activities, should the demand arise. It was also decided to start working on a set of Policies and Procedures that will capture in writing practices that have been historically passed on by word-of-mouth.

At the August meeting, Derek Havel and Marion Richards shared how things are progressing for the Wild Mushroom Show in October, while Marian Maxwell gave a detailed account of everything related to the Ben Woo Foray.

Marian also shared that the phones in our offices at the CUH have been out of order for a while, and we are working to get this fixed. In the meantime, you can find the contact information for each committee chair in the member's area of our website, under "Engagement - Projects/Committees".

At both of these meetings, the board also went through the monthly financial reports provided by Treasurer Brenda Fong; started planning ahead for the renewal of our lease at CUH; and brainstormed ideas to organize and tidy up our offices there.

Summer is winding down, and we are excited about fall! Field trips will be upon us before we know, and our annual Wild Mushroom Show and the Ben Woo Foray are just around the corner. We can't wait to see you all again soon!

MEMBERSHIP MEETING

Scott Maxwell

Welcome new members, to those who have just joined and would like to learn more about PSMS! The general membership meeting on September 12, 2023, will once again be a hybrid including both in-person and Zoom at the Center for Urban Horticulture at the University of Washington. Given that this is the beginning of the Fall mushrooming season, this meeting will in part act as an orientation to PSMS, and so will be of special interest to the "new members." First, you should know that our membership meetings occur the second Tuesday of each month except July and August. We will start letting in-person attendees in at about 7:00 pm and Zoom attendees at about 7:20–7:30 pm.

This month long-time member Marian Maxwell, previous president, previous Scientific Display chair, current Outreach chair, current board member, and amateur mycologist, will be presenting a short introduction to the PSMS website, what information is contained there, and how to navigate to areas of interest. Along the way, she will also provide information such as what committees exist in the club, who chairs the committees, who our club officers are, and how to communicate with other members.

Marian will then present "Introduction to Fall Mushroom Hunting." This lecture will include many of the basics of safe and successful mushroom hunting during the fall season. It will also include descriptions of the mushrooms most often sought after, how to identify them, basics of culinary preparation, what environment you may find them in, and what the State and Federal rules are that govern the collection of mushrooms in Washington State.

Marian studied the Kingdom of Fungi at the University of Washington under Dr. Daniel Stuntz where she received her Bachelor of Science degree in Botany, with the majority of her credits in mycology. She has served in many capacities within PSMS, served on the Daniel E. Stuntz Foundation for several years, served as on the board of the North American Mycological Association, and is a frequent lecturer at libraries, schools, and community events. Given her background in both mycology and PSMS, she is the perfect person to provide this orientation.

ALISON POULIOT RETURNS!

Steve Trudell

In pre-COVID 2019, Alison Pouliot, Australian ecologist, photographer, author, and fungus educator, made a speaking tour of the Pacific Northwest, including extremely well-received appearances at the October PSMS membership meeting and the Annual Wild Mushroom Exhibit. Now, thanks to the Daniel E. Stuntz Memorial Foundation and the Stuntz Mycology Fund, Alison is making a return visit with a new book, *Meetings with Remarkable Mushrooms: Forays with Fungi across Hemispheres* (the American edition title for the book known in Australia as *Underground Lovers: Encounters with Fungi*).



Alison Pouliot

Although scheduling conflicts prevent her appearing at one of our membership meetings, she will be presenting on both days of the Annual Exhibit—a great reason for you to sign up as a volunteer for the event. In addition, she will be making presentations at Third Place Books October 5 and Elliott Bay Book Company on October 30 in Seattle, as well as at meetings of the Snohomish County Mycological Society in Everett on October 11, the Northwest Mushroomers Association in Bellingham on October 12, and the South Sound Mushroom Club in Olympia/Lacey on October 17. Visit her website at alisonpouliot.com

for more information about her and her books, examples of her photography, a number of short videos, and details about her appearances in the Pacific Northwest.

MUSHROOM CULTIVATION WORKSHOP

We are holding another session of James Nowak and Milton Tam's mushroom cultivation workshop on Sunday, Sept. 17, 2023, from 1–5:00 pm. After letting people from last class' waiting list into the class, there are still 9 spots available, but they will probably go very fast. To register for this class, visit



<http://mms.psms.org/members/evr/regmenu.php?orgcode=PSMS>

and scroll down to "Introduction to Mushroom Cultivation."

If you do not get into this class, and it is full by the time you try and register, please continue to scroll down to the "Waiting List for Future Cultivation Classes" event and register for that. Then you will be notified when the next class is scheduled.

The cost will be \$90, which includes all the materials for the kits that will be provided to you.

To dream of mushrooms denotes fleeting happiness, to dream you are gathering them, fickleness in a lover or consort.

—Richard Folkard in *Plant Lore* (1884)

BOOK REVIEW: *Meetings with Remarkable Mushrooms: Forays with Fungi across Hemispheres*

Helen Lau, PNWKC

Meetings with Remarkable Mushrooms by Alison Pouliot is a captivating journey into the sensory realms of fungi. It's told through first-hand stories—from the Australian desert to Iceland's glaciers to America's Cascade Mountains—where we encounter glowing ghost fungi and the enigma of the lobster mushroom. The book [not only] presents new questions and insights about fungi but is also an intimate celebration of their astonishing beauty, but complexity. It melds science and personal reflection to explore overlooked themes, among them fungi and fire, fungi and climate change, fungi and aesthetics, fungi in ecosystem restoration, and fungi and indigenous wisdom.

[Ed. note: As always, her mushroom photographs are fabulous.]

ISRAELI BEER IS BREWED WITH 3,000-YEAR-OLD PHILISTINE YEAST STRAIN

Doug Greener

<https://www.jpost.com/>, Aug. 25, 2023

Israelis can now buy beer fermented by using the descendants of a yeast strain that was originally used to brew beer 3,000 years ago in the Philistine city of Gat.

Called HaMishteh ("the Feast"), it's being produced at the Shikma Brewery in Ashkelon.

You might have seen headlines that declared: "Want to get drunk like a Philistine?" or "Drink the beer that Goliath (or Cleopatra or the pharaohs) had!" or even "A taste of history in every gulp!"

Well, these are not exactly accurate.

Yet when you cut away all the public hype, the story of how this ancient yeast was discovered, isolated, revitalized, and used to brew beer is still a true adventure.

It started a few years ago when Itai Gutman, one of the founders of the Herzl Brewery (then in Jerusalem), was having a beer (of course!) with Prof. Ronen Hazan, a microbiologist at the Hebrew University-Hadassah School of Dental Medicine.

"We were discussing a project that had just succeeded in revitalizing yeast from a three-year-old empty beer bottle," explained Gutman. "We asked ourselves, half-jokingly, if yeast can survive for three years in the bottle, maybe it can survive for hundreds or even thousands of years?"

As Gutman described it, they approached the Israel Antiquities Authority and asked if they could have some shards from ancient pottery that might have held beer or other fermented beverages. "To our surprise, they agreed," said Gutman.

Dr. Yitzhak Paz, a senior research archaeologist at the IAA, gave them 21 shards of pottery found at four different sites in Israel, ranging in age from 5,000 to 2,500 years old. Residue from the pores of these shards was analyzed by a research team from the Hebrew University of Jerusalem, including Hazan, Prof. Michael Klutstein, and Tzemach Aouizerat, then an MA student in microbiology. They found the yeast colonies, revitalized them, nurtured them, and sequenced their DNA genome. Quite a piece of work!

cont. on page 5

Australian Death Cap Poisoning, cont. from Page 1

They contain a toxin called amanitin which causes liver and kidney failure and less than half a cap is enough to kill a person. Death caps are responsible for about 90 percent of mushroom deaths worldwide. The fatality rate for people who consume a Death Cap and get prompt medical treatment varies, but is generally estimated at 10–30 percent.

Mushroom Murder Mystery

There have been conflicting reports about whether Patterson's two children were present at the meal and whether they ingested the toxic mushrooms.

Some accounts have stated that both children were there but ate a separate dish, while others stated that the children were at the movies at the time of the meal but ate leftovers later on. The children have been taken into state care as a precaution, the BBC reported.

Patterson herself did not appear to display any symptoms after the meal; however, she claimed that she was hospitalized on July 31st and given a saline drip along with medication to protect against liver damage.



wikipedia

Amanita phalloides

Although Patterson has not been charged with any crime, she is still the lead suspect in the case, Thomas confirmed at a Melbourne press conference. ... "because she cooked those meals."

Patterson has steadfastly maintained her innocence.

Initially, she refused to answer questions regarding the origin of the mushrooms; however, she later claimed that the mushrooms used in the beef Wellington dish were a mixture of button mushrooms from the supermarket and dried mushrooms from the Asian grocery.

In her statement, Erin also admitted that she had lied to police regarding a food dehydrator that she threw away the day after the meal.

She said she had panicked and worried she might lose custody of her children after her ex-husband questioned her about whether she had poisoned his parents. The dehydrator has since been seized by police to undergo forensic testing.

Past Patterson Poisoning

Erin's ex-husband, Simon Patterson, had his own close call last year with severe gastrointestinal issues that left him in intensive care for weeks.

In a Facebook post he shared in June 2022, he said. "My family was asked to come and say goodbye to me twice, as I was not expected to live. I was in intensive care for 21 days, after which I was in the general ward for a week, and now I'm at a rehab place since last Saturday.

"I'm pleased to say all the medical work has seemed to have fixed the serious gut problems I had, and I've been feeling great for many days."

A spokeswoman for the family declined to comment on the Facebook post. Simon was supposed to attend the lunch at Erin's home along with his parents but canceled at the last minute.

VITAL TOXICOLOGY TESTS "MAY HAVE BEEN TAKEN TOO LATE" AFTER 'POISONED MUSHROOM LUNCH

Ben Ashton

<https://metro.co.uk/>, Aug, 27, 2023

The toxicology results of three victims who died after eating poisonous mushrooms in a beef Wellington could prove crucial in the murder investigation.

Erin Patterson, 48, served up a deadly lunch at her home in Leon-gatha, Victoria, Australia last month to four of her ex-husband's relatives. Three died within days of the meal. One miraculously survived after spending days in a coma on life support.

It's suspected the group all ingested Death Cap mushrooms [*Amanita phalloides*], causing catastrophic damage to their livers, which caused a fatal knock-on effect to the bloodstream.

Erin denies any wrongdoing and says she did not know the mushrooms were poisonous, claiming she bought them from shops.

A vital step in the case will be the outcome of toxicology reports—but it's feared that samples may not have been taken in time.

Toxicologist Dr. Michael Robertson said on Thursday that [ama-toxin], the deadly toxin found in Death Cap mushrooms, is only detectable for about two days after ingestion, despite not getting broken down by the body.

He told the *Herald Sun*: "The laboratory knows what it is looking for, Death Cap mushrooms, but that's not something we see routinely in Australia and the method of analysis is far from routine.*

"Those early samples are very important because they, particularly any urine samples, would help prove it was Death Cap mushrooms and therefore show intent."

Robertson told the newspaper he was "certain" blood samples would have been collected, but thinks they will be "significantly less useful to detectives" if they were taken more than 48 hours after [the poisoning].

He added: "Whilst the clinical picture is consistent with Death Cap mushroom poisoning, if you don't have proof the police case becomes much more circumstantial."

The victims would have first felt the fatal effects of the Death Cap mushrooms around six to eight hours after eating them, according to Robertson, who said their livers would then have started to "shut down."

"While the mushrooms are still in the stomach, you can get them and the toxin out and hopefully you can be kept alive," he said. "But once the toxin is in the bloodstream, there's really nothing you can do."

Detectives are not thought to have been alerted to the poisoning for several days, which may impact their ability to conclusively determine if it was indeed Death Cap mushrooms that took the lives of Erin's former in-laws.

The Australian Mushroom Growers Association issued a statement insisting poisonous mushrooms cannot have entered Australia's supply chain. The Death Cap fungus "only grows in the wild," it noted."

**Amanita phalloides* has been found growing in Victoria and the Australian Capital Territory, although rarely in other states. Leongatha is in the state of Victoria 135 km (84 mi.) southeast of Melbourne.

Ancient Israeli Beer Yeast, *cont. from page 3*

These yeast colonies, however, were not the original ones from thousands of years ago, but their descendants. During their 3,000 years buried in the earth, enough rainwater and nutrients seeped in to keep these hearty fungi alive and multiplying. What the scientists found were many generations after the original yeast colonies.

When the cultures were analyzed, it was found that the yeast was authentic and actually used in brewing, and was not just pollution from the environment. In fact, one of the yeast strains found in pots from the Philistine site at Tel es-Safi (Gat) is still used today to brew native sorghum beer in Zimbabwe.

For the next step, beers were brewed using a few of the resurrected yeast strains. Gutman and a team of beer judges tasted them and decided that the one brewed with yeast from Tel es-Safi was the most promising.

There was no attempt to use other “original ingredients” for the grains or the flavoring. We know that the Egyptians, Philistines, and others used a wide range of flavorings for their beer, including honey, different fruits, plants, and herbs. But for these recreated beers, modern hops and malt were used—a true anachronism, since hops originated in Europe around the 11th century CE.

The first iteration of this beer was unveiled to the public four years ago at a press conference-plus-tasting in Birateinu, the Jerusalem Beer Center. The many journalists and photographers, as well as beer lovers who attended, proved that the subject had caught the popular imagination.



The beer served tasted very much like a modern wheat beer: mild, slightly spicy, sweet and fruity, drinkable, and refreshing.

Prof. Aren Maeir of Bar-Ilan University's Department of Land of Israel Studies and Archaeology demonstrates how beer was poured from an ancient Philistine beer jug.

At the press conference, Paz said that this experiment was a real breakthrough. “This is the first time we succeeded in producing ancient alcohol from ancient yeast—in other words, from the original substances from which alcohol was produced. This has never been done before.”

Prof. Aren Maeir of Bar-Ilan University's Department of Land of Israel Studies and Archaeology, who had excavated the Tel es-Safi site, proclaimed: “Make no mistake about it. This is a fantastic find!”

The research team took their findings to Yisum, the Hebrew University company specializing in helping transform scientific innovations into commercial enterprises. Together, they created the start-up Primer's Heritage Yeast, headed by Gutman, who now lives in Berlin; the IAA; and Hebrew University, Tel Aviv University, and Bar-Ilan University, which were all involved in the project.

“When we started our research, we didn't plan to go commercial,” explained Gutman. “But then we realized that our revived yeast strains could benefit others—commercial and home-brewers—around the world.”

It took a while before the company was able to find its first customer for the yeast strain from Tel es-Safi. Eventually, an agreement was reached with the Shikma Brewery in Ashkelon, a brewer of craft beer but wholly owned by the giant Israel Beer Breweries Ltd., makers of Tuborg and Carlsberg beers.

Working closely with the Heritage Yeast team, the Shikma brewers were able to devise a recipe for their beer that allowed the aroma and flavor of the yeast to take center stage, with the malt and hops kept very mild so as not to overpower the yeast.

The barley for HaMishteh was grown in Israel—unusual for any Israeli beer.

When I tasted it, my first impression was to draw comparisons with Belgian ales and German wheat ale (hefeweizen). Both of these styles get flavors from the yeast—fruity esters including banana, and clove-like phenols. This is what I tasted in HaMishteh.

It is an enjoyable, balanced beer, aromatic and flavorful, fun to drink, with a very modest 4.7 percent alcohol by volume.

Gutman explained that we shouldn't be surprised to find Belgian yeast characteristics in the 3,000-year-old strain. “Belgian brewers have been using traditional yeast cultures for hundreds of years. These are closer to our ancient yeast varieties than the more modern and ‘domesticated’ strains that are used in the popular lagers and ales around the world.”

It's no wonder, then, that HaMishteh, brewed with yeast from the Philistine city of Gat, actually tastes similar to Belgian ale.

Primer's Heritage Yeast will be available for sale later this year to anyone who wants to use it, according to Gutman. It can already be pre-ordered on the company's website.

“We decided to sell the yeast rather than the beer,” said Gutman, “so people can use it to make whatever they want. We don't want to stop at beer. We hope our ancient yeast strains will be used, for example, by bread bakers, wine makers, mead brewers, even [to make] cheese and other dairy products.”

All that is planned for the future. What you can buy and drink today is a beer made with the same yeast strain used 3,000 years ago—even if it isn't the same beer that warmed the heart of the pharaohs, Cleopatra, or Goliath.

WOMAN WITH NO MIND'S EYE DEVELOPS ONE AFTER TAKING MAGIC MUSHROOMS

Ben Taub

IFL Science, Aug. 16, 2023

A 34-year-old woman with aphantasia has developed the ability to experience mental imagery for the very first time after taking magic mushrooms. Describing the unusual case, a researcher from Lumière University Lyon 2 in France explains that the woman had lived her entire life with no mind's eye, yet began thinking and dreaming in images following her psychedelic trip.

It's thought that between 2 and 4 percent of people have aphantasia, which refers to an inability to generate mental pictures. Describing her experience, the subject of the new and as yet not peer-reviewed case report said that “if someone tells me ‘imagine

cont. on page 6

Mind's Eye, cont. from page 5

a castle,' I can only imagine a castle that I know, like Hogwarts, and it takes the form of descriptions I have read, not images."

Though aphantasia is not a disability or a disorder, the woman revealed that her lack of mental imagery made it difficult for her to remember routes and caused her to regularly lose her way or get lost. However, following a dose of psilocybin mushrooms, her internal universe suddenly became populated by graphic scenes.

"I found it incredible because it was the first time I had images in my mind, and I realized that you can play with images, zoom in, zoom out, break down colors," she explained. "The possibilities with mental images are endless and not limited to the visual and sensory experiences of real life."

Shortly after her 'shroom trip, the woman began dreaming in images, and reports that her mind's eye has now remained open for a full 12 months. "Before this experience, I had no visual memories of my life, and after the first intake, I was able to have them," she said. "For example, one of my best memories, when I was running after the chickens at my grandmother's house when I was two years old, now materializes in visual form as well."

To assess the changes in the woman's everyday conscious experience, the case report author asked her to retrospectively complete the Vividness of Visual Imagery Questionnaire. Results showed that her score increased from the minimum rating before taking psilocybin to the maximum, suggesting a dazzling explosion of mental magnificence.

A year later, her score had dropped to the average rating for a person without aphantasia, indicating that her ability to perceive mental imagery had persisted but was now less spectacular than it had been immediately after her trip. For instance, she revealed that her internal visualizations had become less colorful in the 12 months since her mushroom experience.

Though it's impossible to say how this reversal came about, the author of the case report explains that psilocybin is known to alter visual perception. At the same time, aphantasia has been linked to dampened emotions, and it is, therefore, possible that the influence of psychedelic drugs on emotional processing may somehow impact mental imagery.

Despite the woman's eye-opening story, the author says "it is important to note that this case report is based on a single individual who experienced the emergence and persistence of mental imagery over time, and should be interpreted with caution.

"Further research involving larger samples, long-term follow-ups, and controlled studies is needed to explore the potential effects of psilocybin and their durability on the quality of life and mental imagery of aphantasic...individuals."

THIRD OF UK PEOPLE UNDER 50 WOULD TEST PSYCHEDELICS FOR TREATING MENTAL HEALTH CONDITIONS

<https://www.pharmiweb.com/>, Aug. 8, 2023

LONDON - New YouGov polling commissioned by clinical trials startup Lindus Health has found that 36 percent of 18–24 year

olds and 30 percent of 25–49 year olds are interested in trialing psilocybin—the psychedelic found in "Magic Mushrooms"—to treat mental health conditions.

The research also revealed that respondents would be interested in testing other currently illegal substances, such as Ketamine, MDMA, and DMT, for treating mental health conditions.

Millions of people in the UK continue to suffer long-term or ongoing mental health conditions regularly. According to mental health charity Mind, 1 in 6 people will experience a common mental health problem in any given week in England.

Aside from psilocybin, for those aged between 18–24 were most interested in trialing Ketamine (27 percent) and for 25–49 year olds the next highest was MDMA (26 percent).

Interestingly, psilocybin came out on top for all age groups—including 54–60 year olds (17 percent) and those aged above 65+ (10 percent).

Psilocybin is being trialed as a treatment for a range of mental health disorders, such as PTSD, anxiety, and depression. Current treatment for mental health disorders includes talking therapies, counseling, and antidepressants—though, according to the NHS, it is still not known exactly how they work.

Commenting on the polling, Michael Young, CEO of Lindus Health said:

"We are arguably in the middle of a mental health crisis, with a quarter of people experiencing a condition every year, and our current approaches are seemingly not cutting through. These new findings suggest that people of all ages feel the same, with about a third of those under 50 being open to trialing the use of psychedelics in treatment.

HEALTH OFFICIALS ISSUE VOLUNTARY RECALL OF PHOENIX MARIJUANA STRAIN

Eddie Celaya

<https://tucson.com/news/>, Aug. 23, 2023



Arizona regulators overseeing medical and recreational marijuana issued a voluntary recall of weed possibly tainted by fungus.

The state Department of Health Services singled out a strain of marijuana flower due to concerns about potential contamination with

Aspergillus, a fungus known to trigger allergic reactions or infections, especially in individuals already dealing with pre-existing health conditions.

Aspergillus infections primarily affect individuals with pre-existing health conditions. Symptoms vary and can include asthma-like manifestations, cold symptoms, fever, chest discomfort, and others.

The affected product, Tropicana Punch, batch number H.TP230213.A04, is produced by Phoenix-based Grow Sciences.

There have been no reports of illness linked to the product in question, the Department of Health Services said in a news release Wednesday.

The department recommended consumers promptly dispose of the product and also that anyone who purchased it not consume, inhale, or ingest it.

**THE GENUS *TULOSESUS* (*Coprinus/Coprinellus*)
—Here Today But Gone Tomorrow**

Brian S. Luther

Most mushrooms take many days or a week or longer to develop fully, based on how substantial they are and the growing conditions. However, some gilled mushrooms literally form their fruiting bodies (basidiocarps) and disappear in well under a day. These species are what we call ephemerals, having a fugacious/fleeting life cycle, going from buttons to maturity in a very short time.

My wife and I get a trailer load of seasoned goat manure every fall for our garden from a friend in Wenatchee and this year the manure we used to amend the soil where our tomato and bean plants are located produced continuous fruitings of a species of *Tulosesus*. Some species of *Tulosesus* are coprophilous/fimicolous, meaning they only grow on manure or very manured ground, as is the case with the species discussed here. I took photos of young, just emerging caps of this species at approximately 8:00 pm one evening, and by 6:00 am the next morning they were fully developed mushrooms. By 8:00 am as the sunlight hit them, they simply dried up and disappeared they were so thin and fragile, completing their life cycle in only 12 hours.



Tulosesus sp. caps just opening up in the early morning.



Tulosesus sp., immature and mature mushrooms.

Discussion

This fungus did not precisely match others in the literature, but it appears nearly identical to *T. marculentus* and *T. bisporus* in outward appearance, both of which also inhabit dung. The basidiospores measured 11–15 × 6.5–8 μm, which are comparable to the spores in those species, but the fungus discussed here lacks the hexagonal (slightly flattened on 6 sides) basidiospores typical for *T. marculentus* and does not appear to have the lateral germ pore seen in *T. bisporus*. A number of related (and equally short-lived) species are often seen growing on dung or in grassy habitats during fall, so I wanted to introduce you to this new genus.



Tulosesus sp., view of mature gills and black spores forming.

Breitenbach & Kranzlin (1995) provide excellent descriptions, line drawings, and color photos of many of these related species, but under the genus *Coprinus*. These fungi were originally described in the genus *Coprinus* then transferred to the genus *Coprinellus* in 2001. Most recently Wachter & Melzer (2020) reevaluated the status of many of these fungi, doing comparative DNA sequence work, and established them within this new genus mentioned here.

References

Breitenbach, J. & F. Kranzlin. 1995. *Fungi of Switzerland*, Vol. 4: Agarics, 2nd part. Mykologia, Lucerne, 368 pp.
Wachter, Dieter & Andreas Melzer. 2020. Proposal for a subdivision of the family Psathyrellaceae based on a taxon-rich phylogenetic analysis with iterative multigene guide tree. *Mycological Progress* 19 (11): 1151–1265.

THE EASIEST WAY TO AMP UP THE MEATY TEXTURE OF MUSHROOMS

Stacie Adams

<https://www.thedailymeal.com/>, Aug. 20, 2023

Plant-based meats are all the rage these days, but they're not always the most affordable option at the grocery store. Mushrooms are a wonderful meat substitute, as they're easily accessible and usually more affordable than well-known meatless brands. When using mushrooms to replace ground beef, the secret is to mince them into tiny pieces. Smaller pieces will best replicate the texture of ground beef, which is key when making meatless mushroom burgers.

Diced mushrooms can also be used in place of meat in a variety of other dishes. For instance, using them as a pizza topping is ideal when replacing sausage, especially when you season them with classic sausage spices like fennel, dill, and allspice. By the same token, mushrooms can replace meat in pasta dishes, such as spaghetti bolognese or Cincinnati chili. Because there are so many distinct mushrooms out there, it helps to know which ones work best as a meat replacement.

Which Mushrooms Are The Meatiest?

Perhaps the most famous of the meaty mushrooms, portobellos are a go-to choice when you want to enjoy a hearty, meat-free meal. Thanks to their absorbent nature, portobellos beautifully soak up marinades and sauces. They're also versatile, as they can take the place of succulent steak, ground beef, or sausage, depending on how they're dressed. And because they're a robust mushroom, they're capable of satisfying even the biggest appetites.

Shiitake mushrooms are another excellent selection when it comes to replacing meat. In terms of flavor, shiitakes are said to be similar to poultry like chicken and turkey. They're a worthy rival to pork, too, and feature in many meat-free barbecue and vegan bacon recipes as a result. They, of course, work well in stir-fry preparations, especially when paired with garlic and zucchini. There are plenty of other meaty mushrooms to choose from, including chanterelles, oyster mushrooms, and creminis. Cremini mushrooms work particularly well when you have a hankering for a juicy meatless burger.



Portobello mushrooms.



Shiitake mushroom.



Chanterelle mushrooms.



(left) *Oyster mushrooms.*



(right) *Cremini mushrooms.*

How To Make Your Own Mushroom Ground Beef Replacement

Vegan ground beef is an excellent addition to your nightly dinner routine. Sliced cremini mushrooms are often the star of the dish,

cont. on page 8

POPULAR SWEET TREAT URGENTLY RECALLED OVER FUNGUS FEARS

Eliza Loukou

The US Sun, Aug. 21, 2023

UK shoppers have been urged to return a sweet breakfast staple sold in supermarkets over fears they're unsafe to eat.

Batches of chocolate-filled croissants (pain au chocolat) made by St Pierre are being recalled "due to the possible presence of mold."

With packs of six being sold at Sainsbury's, ASDA, and Ocado for £2, Brits who've bought them have been warned to avoid indulging in the sweet treat and return them for a refund.



*St Pierre Pains Au
Chocolat.*

The Food Standards Agency (FSA) warned shoppers last week, that the following "Best Before" dates on their St Pierre Pains Au Chocolat could contain mold and are unsafe to eat: 17 September 2023, 25 September 2023, and 1 October 2023.

The food safety watchdog also urged shoppers to check the use-by dates of any St Pierre chocolate croissants in their freezer, as these also had the potential to make them ill.

"The possible presence of mold may make the product unsafe to eat," the FSA wrote in its notice. "If you have bought any of the above product do not eat it. Instead, return it to your nearest store for a full refund," it went on, adding that customers would not need a receipt to do so.

MUSHROOM ASTROLOGY **Bob Lehman, LAMS**



Virgo (Aug. 23–Sept. 22): While others go after big, showy, edible mushrooms, you appreciate any mushroom that is a fine example of its species. You may drive other people crazy with the LBMs (little brown mushrooms) you find, admire, and ask questions about. You enjoy making detailed examinations of mushrooms and will be a good taxonomist if your mushroom interest is strong enough. Whereas fire signs (Aries, Leo, and Sagittarius) and Pisces like to identify mushrooms by flipping through pictures, you insist on keying them out. You enjoy edible mushrooms but are more particular than others about their freshness, purity, and flavor. Like Cancer, you are attracted to mushroom cultivation.



Libra (Sept. 23–Oct. 22): You appreciate the ecological role of mushrooms and have a good sense of where different species can be found. However, you may never get to some of their habitats because you like easy activities and often do your mushroom hunting in city parks and residential areas. You are pleased to share your mushroom hunting territory with others (which is a good thing, since this is often other people's homes). You consider a foray successful if everyone has gotten something of value from it. You fret over identifications. You have a good feel for the edible qualities of mushrooms even though you may not do much cooking.

Meaty Mushrooms, *cont. from page 7*

as they make a perfect substitute when it comes to the texture and rich flavor of ground beef. You can use a selection of seasonings to elevate the meaty taste, including cumin, soy sauce, onion powder, and balsamic vinegar, to name just a few. Cornstarch is also key, as it will thicken the mushrooms to ensure they achieve the proper burger texture.

To ensure the perfect ground beef texture, creminis should be broken down in a food processor until the pieces are about a ½ inch thick. You may need to chop the mushrooms in batches to ensure the proper size (this recipe calls for one pound of creminis). Next, take the spices and mix them together. Wet ingredients, i.e., soy sauce and vinegar, are combined in another bowl, and then everything is added to a heated pan with olive oil. It usually takes about four minutes of stirring in the pan for the mushrooms to be fully cooked; then, they can be added to a bun and adorned with your favorite burger toppings.

Lorelei Lehwalder Norvell 1943–2023



We are sad to report the death of noted mycologist Lorelei Norvell, who lost her six-year battle with cancer on August 4, 2023.

Lorelei was a friend of many professional and amateur mycologists in the Pacific Northwest and North America. She was a long-time member of the Oregon Mycological Society, where she led a 10-year-*chanterelle* study. She then went back to school, eventually getting a Ph.D. from the UW under Dr. Ammirati in 1997.

Since then, she has served in various prestigious positions—President of the Pacific Northwest Mycology Service since 1995; Editor-in-Chief of *Mycotaxon*; president of the PNW Mycology Service (1995–2023); Secretary of the IBC Nomenclature Committee for Fungi (2005–2014); Specialist in ectomycorrhizal basidiomycetes, with emphasis on *Phaeocollybia* and *chanterelles* (2006–2015); IMA scientific advisory board; MSA Fellow and MSA Secretary (2000–2003) She was known world wide for her work on the taxonomy and nomenclature of mushrooms,

Lorelei became seriously interested in mycology late in life. Originally interested in science, but, as she put it, "I ended up causing a sort of silent explosion in the chemistry lab, and decided that perhaps I didn't have the temperament to be a good scientist." She switched to modern languages, especially Russian. Noting that all her professors were out of work, she switched again and went into art. For eight years she owned a glass studio, where she designed and made residential and business windows and panels and instructed students how to do the same. Along with her interest in languages, she also entered, and won, Scrabble contests.

Farewell, Lorelei. Rest in peace.