

Spore-Addict Times



MONTHLY MEETING

WHEN? Monday, April 24, 2017 - The 4th Monday of the month.

WHAT TIME? 6:00 pm; The meeting will come to order at 6:30 pm

WHERE? Penrose Library - Carnegie Reading Room,
[20 N. Cascade Ave, Colorado Springs, CO 80903](http://www.pikespeakmushrooms.org)

Website: www.pikespeakmushrooms.org

Contact: PPMSmail@gmail.com

PROGRAM

PPMS President, Brian Barzee will welcome new members, discuss this year's goals, general rules, and being safe with wild mushrooms.

We will also introduce this year's PPMS officers and hold an election for VP and/or Secretary if there are more than one candidate vying for each position.

2017 Dues are Due!

2016 Dues are \$25 for email newsletters. We no longer offer print editions as cost of printing and mailing is too high.

Please send your payment by July 15th to:

Warren Williams
5131 N Mesa Drive
Castle Rock, CO 80108

2017 PPMS Officers

The PPMS board of directors met in April to discuss plans for the upcoming season and voted for club officers.

President:	Brian Barzee
Vice-President:	Mike Essam (candidate)
Treasurer:	Warren Williams
Secretary:	Jennifer Bell (candidate)
Hospitality:	Martha Zenger
Foray Coordinator:	David Story
Newsletter Editor:	Skyler-Fly Wilson
Webmaster:	Skyler-Fly Wilson

2017 Meetings & Events

- April 24th: Welcome & Meet our officers.
- May 15th: William Padilla-Brown, Cordyceps species and their cultivation
- June 26th: TBD
- July 24th: Dr. Nhu Nguyen, and possibly Dr. Tom Bruns, Suillus experts
- August 17-20: [Telluride Mushroom Festival](#)
- August 28th: TBD
- September 26th: TBD
- October (TBD): Cook & Taste Potluck

Please Update Your Contact Info

Have you noticed you haven't been receiving any PPMS news, even after checking your SPAM folder and filter settings?

Maybe you moved, changed your phone number or email address this past year?

To ensure you don't miss out on any news and events from PPMS, please verify your contact information (email, phone number, address) with Warren Williams at our general meeting or email christaharp@gmail.com.

Facebook Group

We have a Facebook group as an extension of PPMS for fungi lovers to connect with one another and share their adventures in mycology.

You can find us at:

<https://www.facebook.com/groups/PikesPeakMyco/>

Fungus Kills Ticks

BY ANETTE TJOMSLAND

Date: November 12, 2013

Source: Bioforsk - Norwegian Institute for Agricultural and Environmental Research

Summary: Ticks may be facing a dangerous fate. In Norway, research efforts are hoping to determine whether fungus can kill ticks in sheep pastures. This would also benefit future hikers, and benefit the sheep population, which is threatened by ticks.



Infected female tick of the species, *Ixodes ricinus*. The fungus continues to grow inside the tick until it fills the whole body. Thereafter it extrudes out of the tick again and forms new spores on the outside of the body, which can spread to new ticks.

Credit: Karin Westrum, *Bioforsk Plant Health*

Ticks may be facing a dangerous fate. In the TICLESS project, Bioforsk, the Norwegian Institute for Agricultural and Environmental Research, is hoping to determine whether fungus can kill ticks in sheep pastures. This would also benefit future hikers.

Tick bites in sheep can lead to the disease tick-borne fever (TBF), which causes high fever and weakens the immune system. As a result of TBF, animals may become seriously ill from diseases they usually cope with. Bioforsk is therefore conducting field trials where the aim is to reduce tick populations in sheep grazing areas by using a tick pathogenic fungus called *Metarhizium*. *Metarhizium* occurs naturally in Norwegian soil and in the soils of many other countries worldwide where it has the potential to infect and kill ticks. When living organisms or "natural enemies" of a pest are utilized in order to reduce pest population levels, this is known as biological control.

Killing ticks from inside

Ingeborg Klingen, Head of Section of Invertebrate Pests at Bioforsk Plant Health and Plant Protection Division, and her group, are currently conducting field trials with BIPESCO 5 which is a formulation of an isolate of the tick pathogenic fungus, *Metarhizium*.

"The fungus we are using in the trial is a natural enemy of insects and mites found in soil. What we do is to increase the natural fungal population by releasing it in large quantities. This type of biological control is known as augmentation biological control and is an alternative to chemical control," says Klingen.

"The death that awaits ticks exposed to this fungus, is inhumane; fungal spores land and germinate on the skin (cuticle) of the tick and then penetrate it before entering the tick body. The fungus then grows and proliferates inside the tick. During this growth, the fungus produces substances that are toxic and lethal to the tick. The fungus continues to grow inside the tick until it fills the entire body. Thereafter it extrudes out of the tick again and forms new spores on the outside of the body, which can spread to new ticks," Klingen explains.

Potential for recreational areas

If the application of Bipesco 5 against ticks in sheep pasture is successful, the areas of application could potentially also benefit hikers: "We receive many inquiries from private individuals, teams and organizations who wish to reduce the tick problem in their recreational and hiking areas."

Klingen would like to do further research in this area, but

needs to secure necessary project funds in order to finance a study. She sees a potential in using this biological control method in confined recreational areas, perhaps in combination with other measures.

"You could for example apply the fungus along trails and on islands with a great tick population. This is what our collaborative partner, the University of Innsbruck in Austria, is doing and they claim that the strategy seems promising," says Klingen.

She would now like to see collaboration with other research environments in Norway to further examine this potential in Norway.

"In general, Bioforsk Plante Health has good knowledge of the control of insects and mites. We know a great deal about the tick's biology and its natural enemies. In collaboration with the Norwegian Institute of Public Health and several other parties, we could use this knowledge in a strategy for the control of ticks -- also in recreational areas."

Included on the EU's positive list

BIPESCO 5, with the active ingredient Metarhizium, has been tested for toxicity in relation to animals and humans, and is on the EU's positive list for pesticides. Similar products are already for sale in most parts of the world. The trials that led to the quality assurance of the fungus and inclusion on EU's positive list conclude that the persistence in the wild was acceptable after application. There were no other unacceptable adverse effects in the natural environment or on humans either.

According to Klingen, this could make it easier for the product to be approved for use in Norway.

"If we find that the BIPESCO 5 can be effective here at our low temperatures, then it is already in the clear with regard to any adverse effects to humans and the environment. Norwegian authorities have asked Bioforsk to identify how long the fungal isolate of BIPESCO 5 survives in the wild in Norway. Our researchers are therefore looking at how effective the fungus is against ticks, and also for how long it is present in the wild after having been applied as a biological control agent.

Now, all that remains is to see whether the fungus is effective and if it otherwise behaves acceptably here with us," says Klingen.

Story Source:

[Materials](#) provided by [Bioforsk - Norwegian Institute for Agricultural and Environmental Research](#).



Crab & Cheese Stuffed Wild Morel Mushrooms

BY CHEF DAN STEFANICH

Ingredients

8 to 12 large, fresh wild morel mushrooms
 24 ounces cream cheese
 12 ounces minced crab meat
 2 tablespoons minced garlic
 1/4 teaspoon onion powder
 1/4 teaspoon garlic powder
 6 small green onions
 2 fresh eggs, lightly scrambled
 2 cups dried bread crumbs
 Oil for cooking

Directions

- 1) Wash morels, then slice where the head meets the stalk.
- 2) Mix cream cheese, crab meat, garlic, and powdered onion and garlic in a mixing bowl.
- 3) Dice green onions and add to the cream cheese/crab mixture.
- 4) Once thoroughly mixed, place the cream cheese mixture into a one-gallon resealable plastic bag.
- 5) Squeeze the cream cheese mixture into a corner of the bag, then clip the corner of the bag, forming a piping bag (like the cake decorators use).
- 6) Poke a small hole in the top of the morel, then squeeze the cream cheese mixture into the hollow morel head until full.
- 7) Once all morels are "stuffed," batter them by rolling in scrambled egg and dredging in the bread crumbs.
- 8) Once they are breaded, place them on wax paper on a cookie sheet and place in the freezer to hold while you heat cooking oil.
- 9) Put one inch of cooking oil in a black iron skillet, and heat oil to 350 degrees F.
- 10) Remove the morels from the freezer and fry in the oil until golden brown.
- 11) Remove the morels from the oil and place on paper towel to cool.

Serve as a side dish or appetizer.

The Pikes Peak Mycological Society, a nonprofit organization dedicated to the advancement of mycology, publishes Spore-Addict Times monthly from April-September.

Membership is open to anyone wanting to study mycology. Annual dues are \$25 for individual and family memberships (\$40 for a printed newsletter). **Submission of ideas, articles, reviews, letters, artwork and recipes are welcome.**

PIKES PEAK MYCOLOGICAL SOCIETY
c/o Warren Williams, 5131 N Mesa Dr.
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Last September's entry was [Tricholomopsis rutilans](#)

Mystery Mushroom



I grow on aspens that are dead or dying at ground level. I am there all seasons, as I return with new growth each year. I release 6 billion spores in one season alone. My cousins are traditional medicine in the Orient.

What am I?

The Spore-Addict times is the official newsletter of the Pikes Peak Mycological Society (PPMS) and is published monthly April - September. All articles appearing in this newsletter may be freely reproduced, unless otherwise noted, for use in other newsletters provided the source and author are acknowledged. We consider this to be a reciprocal agreement for clubs that send their newsletter to us unless we are advised to the contrary.

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