

Fall 2019

Spore Print



Alberta Mycological Society

Feature Mushroom: *Gomphus clavatus*

Gomphus clavatus is commonly found in the Northern Hemisphere and in North America it's found in mountainous regions and along the west coast (during the winter). The mushroom ranges in color, with young fruiting bodies typically looking violet and progressing to tan-color as they age. It's cap is lobed and irregular and depending on its stage of maturity, can range from broadly convex to very depressed.

Fruiting bodies can grow up to 10cm across and 5cm high. *Gomphus clavatus* have mycorrhizal associations with conifers and can be found growing near spruce or fir trees or on their own.

The mushroom is also known as the Pig's Ear!

Edibility: Edible

Growing Season: Fall/
Winter

Cap: Convex &
Depressed

Gill Attachment:
Attached

Spore Print: Brown

Taxonomy:

Kingdom: Fungi

Division: Basidiomycota

Class: Agaricomycetes

Order: Agaricales

Family: Psathyrellaceae

Genus: *Panaeolus*

Species: *P. cinctulus*

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(Photo provided by Christine Costello)

We have a new website!

Join us at: <https://www.albertamushrooms.ca>

The website includes featured mushrooms, blog, member log in and resources and much more!



Current Board

Rosemarie O'Bertos - Past President

Karen Slevinsky - President

Mike Schulz - Vice-President

Rob Simpson - Treasurer

Elizabeth Lakeman - Secretary

Christine Costello - Membership Coordinator

Dr. Claude Roberto - Director at Large

Bill Richards - Director at Large

Catherine Jevic - Director at Large

Elizabeth Watts - Director at Large

Dr. Jonathan Cale - Director at Large

Joelle Chille Cale - Director at Large

Isabella Tarasco - Director at Large

Lisa Oishi - Director at Large

Ryan James - Director at Large

"He yanked up a couple of mushrooms.

"Tania, can we eat these?"

*Taking them out of his hands and throwing them
back on the ground, Tatiana said, "Yes. But we will
only be able to eat them once."*

— Paullina Simons, [The Bronze Horseman](#)



Volunteer!

If you are interested in mycology, particularly leading forays please email our board for further information about volunteering opportunities: amsdirectors@wildmushrooms.ws



Foray Report: Bragg Creek

What: West Bragg Creek Day Use Area

When did the foray occur: Aug 24, 2019

Foray Length: 3 hours

Attendance: 7 people

Mushroom Species Found:

Edible mushrooms included:

- Lycoperdon pyriforme
- Russulas
- Orange Lactarius
- Gomphus clavatus (Pig's Ears)
- Leccinum (aspen)
- Hericium
- Hedgehogs
- Suillus sp.
- Pleurotus sp.



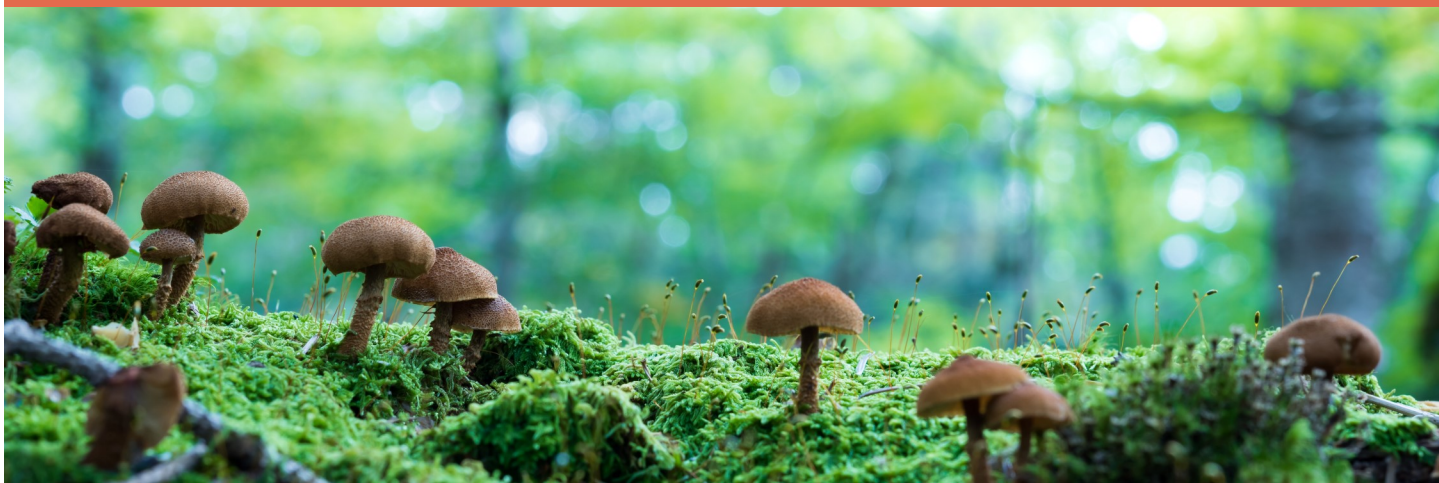
Other non-edibles in abundance included

- Clavariadelphus ligula
- Cortinarius sp.
- Ramaria sp.
- Clitocybe sp.
- Pholiota sp.
- Coprinus sp. and numerous polypores including Artist's Conk.

Terrain: Mixed conifer / aspen woods. Included descent into moist pond area.

Weather Conditions: Pleasant and sunny with some cloudy periods.





Calendar of Events

Date - Event - Area

Keep an eye out for events on our website at;

<https://www.albertamushrooms.ca/events/>

Did you know

Ancient Romans and Greeks, particularly the upper classes, used mushrooms for culinary purposes. Food tasters were employed by Roman emperors to ensure that mushrooms were safe to eat.





News From The Veil: How fungus-farming ants could help solve our antibiotic resistance problem

(www.phys.org) —For the last 60 million years, fungus-growing ants have farmed fungi for food. In their cultivation of those fungi, they've successfully relied on bacteria-produced antimicrobial ingredients to protect their crops from other species of parasitic fungi. Now, researchers reporting in the journal *Trends in Ecology & Evolution* say they are looking to these ants to find new ways to stop or slow the evolution of antibiotic resistance that now presents a major threat to modern medicine.

"Somehow the ant-bacteria alliance seems to have been able to sidestep the problem of antibiotic resistance," says Massimiliano Marvasi of the Università degli Studi di Firenze, Italy. "This led us to hypothesize that the application of potent cocktails of continually evolving variants of antimicrobial compounds was the most likely model by which to explain this dynamic."

Marvasi's team had been studying the fitness of multi-drug resistant pathogens in the environment. While exploring this, first author of the new review Ayush Pathak suggested that they compare what they saw in other environments including clinics to what happens in the fungus gardens of attine ants.

In clinical settings, antimicrobial use leads quickly to the rise of resistant bacterial strains. But the ants weren't having this same problem. The question was: Why?

The researchers say that the secret to the ants' success may be explained by the fact that the bacteria they associate with rely on antimicrobials that vary subtly and continually over time in both structure and combination. This element of surprise, enabled by the presence of gene clusters under selective pressure, allows the ant-associated bacteria to produce ever-changing and unpredictable antimicrobials. As a result, it's much tougher for the parasitic fungi to become resistant, even over the course of millions of years.

The ants' example suggests that mixing and administering continually varying cocktails of slight structural variants of known antibiotics might hold promise as a means to address antimicrobial resistance in the clinic, the researchers say. Along with the continued development of new molecules and classes of antibiotics, they suggest this strategy should now be assessed in the lab and ultimately in the clinic.

"I think the development of effective strategies for mixing subtle antibiotic variants could give a new life to old antibiotics," Marvasi says.

The researchers say the next step is to investigate the effects of selection pressure upon the bacterial gene clusters that produce antibiotic variants. "A better understanding of this relationship and its coevolutionary processes at the genetic level will complement development of new strategies for combating the rise of resistance as well as potentially giving rise to novel antibiotic compounds," Pathak says.

More information: https://phys.org/news/2019-09-fungus-farming-ants-antibiotic-resistance-problem.html?fbclid=IwAR0Q3LhR08IB5BICHB6igJsq_iHlufn4sZi5JeMxe7W-_nKpszv8shUDw



Foray Report: Great Alberta Mushroom Foray (GAMF)

A message from our President: Directors, volunteers, and all participants of the Great Alberta Mushroom Foray (GAMF) 2019:

Well, the dehydrator is safely returned to Thomas Slaymaker, former Provincial Foray Coordinator, thanks Thomas; the reference books, the display trays, the microscope, the DNA extraction kit, all safely stowed at Myhre's Music our storage site, and finally a moment to reflect.

The weekend at Weald Provincial Recreation Area/Robb, Alberta was truly awesome! The weather was outstanding! No rain, but the rain-soaked lands bore numerous fungi! Approximately 50 people collected more than 500 specimens in just one day. All of the collection happened on Saturday, September 14, 2019. The day began with a presentation from Martin Osis on collecting, noting habitat, smell, and other transitory characteristics. He provided appropriate data gathering guidance, then the groups set out. Groups forayed to four different locations scouted out by Ryan James. Weald, Lambert Creek, Mitchell Creek and Coalspur all chosen for their different habitat, and decidedly, different fungi. The groups were led by Robert Simpson, Ryan James, Bill Richards and assisted by Candice Cullum. Everyone came back safely, eventually. Thanks Ryan, Robert, Bill and Candice.



The specimens were brought to Robb Community Hall. A big shout-out to Robb for the use of their modern, and wonderful facility, with free internet! Mr. and Mrs. Wood of Robb gave us their trust, and we hope they are pleased with the manner in which we left their wonderful facility. Many participants, namely Agnes van der Klaauw, David Rowe, and Richard Slevinsky made sure the dishes, surfaces and floors were all clean, and returned in good order.

Robb Coal Branch Hotel delivered a generous, delicious hot lunch. Special thanks to Kevin from the Coal Branch Hotel. Lisa Oishi and her niece Alex helped organize the sit-down lunch.

When not foraying, participants sorted, categorized, and identified their specimens. Martin coached, confirmed or denied. Michael Schulz sat in a corner, yes, all day long and into the night, and then again Sunday morning. Michael, our expert mycologist, verified the identity of exactly 300 specimens. Well, done Michael! We sincerely thank and appreciate the time you spent working with us. Then the identified specimens were added to our database by Barb Shworak. A most complex yet organized database that notes who collected, where it was collected, the mycologist's identification, and many other pieces of necessary information. Thank you Barb. Barb, like Martin, Rob, Michael and a few others worked into the wee hours of Sunday morning to be ready for Sunday's display. Furthermore, selected fungi were photographed by Ryan James and Grant Lakeman, assisted by Alexa Oishi. Thank you Ryan, Grant, and Alexa. Then these fungi were sent to the DNA station. .. cont



Foray Report: Great Alberta Mushroom Foray (GAMF)

...Thin sections of fungal DNA were smeared on Whatman filter paper in as sterile as possible method. One hundred and fifty-three DNA smears were prepared. This precise and careful work was done by numerous participants: Karen Slevinsky, Diane Murray, Alexa Oishi and several others. About 150 specimens were moved to the dehydrator. Some of these dried specimens will be sent off to the National Mycological Herbarium in Ottawa, and the DNA smears will be sent to Dr. Scott Redhead at Agriculture and Agri-Food Canada for sequencing and identifying. More on this later.

An overwhelmingly bountiful potluck organized by, yes, all of us, kicked off the start to our social evening. Hedgehog pockets, creamed honeys, sautéed hedgehogs, and preserved assorted suillus were lovingly presented and prepared by us, for us. As well, jambalaya, wieners, kielbasa, salads, humus, and an endless assortment of people's favourites, ensured that our plates were full for a long and luxurious dinner. The Slevinsky's topped off this wonderful dinner with a thin slice of poppy seed chiffon cake, raspberry compote and whipped cream. After dinner, Gulnara Tagirdzhanova spoke about *The hidden fungi in lichens* – wonderful food for the brain.

Sunday started with coffee and leftovers for breakfast, several individual forays and one group foray led by Robert Simpson – the search for the elusive yellowfoot chanterelles and the giant white hydnum was on! Meanwhile back at the Robb Community Centre, Karen Graham, Aletheia Chaconas, and Isobel Phoebus continued the sorting, categorizing and identifying; readying the hall for the identification talk. Thank you so much, participants from Hinton. Photographs show the range of samples as Michael Schulz, Martin Osis, Bill Richards, and Robert Simpson showed off their Latin and their classification skills. Five hundred and thirteen specimens were collected, 300 were identified by our experts, 54 were identified to their respective *Genus*, and 159 were unidentified.

Sunday ended with a flurry of activity as all materials for the Great Alberta Mushroom Foray for 2019 were packed into the Slevinsky Tacoma. Special thanks to Elizabeth Lakeman, Michael Schulz and several others, as the hall went from order to disorder and back to order again. Barb Shworak and Karen Slevinsky were the last to leave, Barb for blueberries, Karen for Edmonton. The Great Alberta Mushroom Foray was over again, for another year.

All my appreciation,

Karen Slevinsky
President
Alberta Mycological Society





Cooking with Mushrooms

DARK BEER BRAISED BEEF SHORT RIBS WITH DRIED BOLETES AND ROOT VEGETABLES- Serves 2

Ingredients

- Two 16 ounce beef shortribs, bones attached-optional (*if the bones are removed they will weigh less*)
- 2 cups dark beer
- 8 cups beef stock, preferably homemade
- 1/2 cup each diced carrot, onion and celery
- 2 ounces dried boletes (*roughly two handfuls*)
- Bouquet garni of 5 black peppercorns, 3 cloves of garlic, 5 sprigs of thyme, 1 bunch of parsley, and 1 dried bay leaf (*wrap these ingredients in cheesecloth and tie closed for easy removal*)
- Kosher salt and pepper
- Flavorless oil or lard for searing
- Root vegetables, as needed (*I used a couple shallots, a stalk of salsify, and two heirloom carrots, cut into equal sized pieces. If you use shallots, cook them until completely soft.*)
- 2 tablespoons unsalted butter, 1 tablespoon for sauteing the vegetables, plus an additional tablespoon for thickening the sauce

Method

1. Marinate the shortribs for 24 hours in the beer and bouquet garni, turning them every few hours to ensure an even infusion.
2. The day you cook the ribs, rehydrate the mushrooms by placing them in the stock for 20 minutes. Agitate the mushrooms in the stock to remove any debris, then strain the stock. Finely chop the mushrooms and reserve.

Recipe Cont.

3. To cook the ribs, remove them from the beer, dry them thoroughly, then season liberally with salt and pepper. Heat a few tablespoons of the oil or lard in a large braising pan. Sear the shortribs deeply on each side until golden brown.
4. Discard the fat from the pan, deglaze with the beer, cook off the alcohol for a few minutes, reducing the booze by half, then add the diced vegetables, bouquet garni, shortribs, and stock. Bring the mixture to a simmer, then cook, covered, for 2.5 hours or so until fork tender, but not falling apart. Remove the ribs, strain the stock to remove the vegetables and bouquet and discard, then add the mushrooms back to the stock. Chill the ribs.
5. Put the stock back on the burner and reduce to 2 cups, then chill.
6. Meanwhile, blanch each of the vegetables in salted water individually until tender, then chill in an ice bath and reserve. This can all be done days in advance.

Plating

Reheat the stock with the shortribs in it. Season to taste with salt and pepper. When the sauce and ribs are hot throughout, whisk in the cold butter and heat, whisking constantly until the sauce thickens and becomes creamy. Meanwhile, reheat the vegetables in some butter until lightly colored and warmed through. Toss the vegetables with some chopped parsley. On the middle of two preheated dinner plates, plate a short rib and drizzle some of the sauce over to taste. Garnish with the vegetables and serve immediately.



Foray Report: Great Alberta Mushroom Foray

What: Great Alberta Mushroom Foray at Weald Campground/Robb Area

When did the foray occur: Sept. 13, 2019 – Sept 15, 2019

Foray Length: 3 days

Attendance: 60 people

Mushroom Species Found:

- Tricholoma equestre (formerly flavovirens) (Man-on-horseback)
- Hydnum repandum (Hedgehogs)
- Hydnum albomagnum (White hedgehogs)
- Russulas, Armillaria sp. (Honey mushrooms)
- Lactarius deliciosus
- Leccinum sp
- Hericium ramosum
- Chroogomphus vinicolor
- Gomphus clavatus
- Cortinarius sp.
- Cortinarius caperata
- Tricholoma vaccinum, virgatum, terreum

- Suillus species
- Clavariadelphus species
- Ramaria species
- Helvella crispa
- Gyromitra infula
- Hygrophorus erubescens
- ...and many others!!

Terrain: Mixed pine and spruce forests, sphagnum moss, mixed poplar and conifer forests.

Weather Conditions: Sunny and pleasantly cool for most of the weekend.



Barb Shworak



Instagram

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Reginald Buller was one of the first six professors hired by the University of Manitoba in 1904 to teach “modern science.” Buller was, and is, recognized as an internationally famous mycologist, studying mushrooms and other fungi. He left an extraordinary collection, both strange and wonderful. Walk into his office as it might have been and come take a peek into his laboratory!

ARCHIVES EXHIBIT

“He was the Very Model of a Modern Research Scientist”: Reginald Buller and the Founding of the University of Manitoba



DATES: October 15, 2019 - August 31, 2020

HOURS: Monday to Friday, 8:30am - 4:30pm

LOCATION & PARKING: University of Manitoba Archives & Special Collections, 330 Elizabeth Dafoe Library, libguides.lib.umanitoba.ca/archives

MORE INFO: archives@umanitoba.ca or (204) 474 9986

OFFICIAL OPENING: Thursday, October 17, 7:30pm

University of Manitoba Archives & Special Collections.
Talk by Curators Nicole Fletcher and Katherine Pettipas.
Reception to follow.



**University
of Manitoba**