



SPORE PRINT

The Alberta Mycological Society Newsletter

Winter 2014



Greg Oehring loves tasty mushrooms!

Photos and article
by Paul Sinclair

Last year's Great Alberta Mushroom Foray held at the Castle Mountain Ski Resort was a huge success! Some participants slept in hostel bunk beds, others stayed in well-appointed villas, and still others camped out in the forest by a bubbling stream. Everyone enjoyed traipsing through mountain forests and partaking in the great food and fellowship in the spacious chalet at the foot of the mountain.

The 2013 foray also had considerable mycological significance. The AMS had never surveyed the southern mountainous region of Alberta. Before foray participants brought in bushels of specimens from mountain forests, there were almost no collection records for the area. There were 470

collections recorded with about 250 separate species, some still to be confirmed. The most common mushroom was *Suillus tomentosus* (15 collections), *Hygrophorus erubescens* (14 collections), and *Tricholoma flavovirens*, (11 collections).

The area was intriguing for other reasons. We foraged in sites which varied from the alpine to the riparian areas along the Westcastle Wetland Ecological Reserve. We also surveyed areas with a variety of trees, including subalpine fir, Engelmann spruce, Douglas fir, old-growth aspen, and Lodgepole Pine. This diversity was reflected in the mushrooms we brought in.

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President's Message

Rosemarie O'Bertos

In the winter, the forests and our foray stomping grounds have a special, quiet hush and the fallen leaves no longer rustle on their branches but settle into cozy, white carpets that blanket the "would-be" palette for mushrooms to come.

Do you recall the bitter sweetness of the last foray, the last fresh pick converted to your favourite recipe? With pen in hand, record your memories and stories; share them with us and who knows, you may be featured in a newsletter that will preserve your experience for others to enjoy for years to come.

Relish the memories and know that your fabulous Board of Directors is working tirelessly behind the scenes throughout the winter, scheduling events, smoothing out the lumps and bumps and planning the adventures of tomorrow.

Don't permit winter to make you blue about not seeing your mushrooming friends! Take out a big, red marker, circle Saturday, March 29, 2014 on your calendar and plan to attend the President's Dinner. Reconnect with all of your foray buddies and enjoy a fabulous meal! Better yet, join us during the day (before the dinner) on March 29 and attend the AGM. This is where the birth of the new season really begins. You are an integral part of the AMS so come on out...allow your passion to fuel a rewarding experience for yourself this season!

Looking forward to seeing you real soon!

The Alberta Mycological Society is saddened to hear that Yasuyuki Hiratsuka, a long time member of our Society, passed away on October 12, 2013. A globally recognized expert in Mycology, Yasu was a passionate scientist who, at almost 80 years of age, still maintained collaborations around the world. Yasu was predeceased by his wife of 41 years, Haruko in 2000.

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Great Alberta Mushroom Foray 2013

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However, the most exciting aspect of the whole weekend was feeling that we watched mushroom history being made. The lead foray mycologist, Dr. Tom Bruns of UCLA Berkeley, explained in a workshop how DNA sequencing is transforming our ideas about mushroom taxonomy. Dr. Bruns is also leading the development of a North American Mycoflora, a comprehensive survey of North America which relies heavily on the contribution of

a few well-known boletes in Alberta forests can be puzzling. Dr. Patrick Leacock from the Field Museum in Chicago talked about field description. All of our foray mycologists patiently answered questions and endured countless interruptions as they examined yet another rare species.

Speaking of rare species! This year we thrilled to discover a *Lyophyllum shimeji*, a choice edible



Dr. Patrick Leacock identifying mushrooms



prized in Japanese food culture. The discovery of a shimeji in the mountains of Alberta shows how much we have to learn about mushrooms and their habitat.

Mark your calendars for the September long weekend in 2014 when the Great Alberta Mushroom Foray will be held at Goldeye Centre near Nordegg!



"citizen science". With our growing database of Alberta fungi created through our extensive forays, Martin Osis explains, the AMS is playing a key role in this exciting project.

Participants learned a lot in the evening lectures, too. In his lecture entitled "Darwin's Elves—Poison Mushrooms", Paul Kroeger explained the complexity of mushroom poisoning phenomenon. Martin Osis showed us how even the identification of

Foray Mycologists

Dr. Tom Bruns, Associate Chair, Department of Plant and Microbial Biology Chair, UC Berkeley

Paul Kroeger, UBC Herbarium affiliate, president of Vancouver Mycological Society

Dr. Patrick Leacock, Adjunct Curator, Chicago Field Museum

Martin Osis, AMS Past President and founding member, Western Canadian mushroom expert

Dr. Roland Treu, Athabasca University faculty, Scientific Advisor to AMS, *Mycena* genus expert

The Shimeji and Japan

Paul Sinclair

Lyophyllum shimeji, or "hon-shimeji", as it is known in Japan, is one of Japan's mystery mushrooms.

L. shimeji is first of all valued for its modesty; the mushroom has always been relatively rare, and is sought after like its cousin matsutake, *Tricholoma matsutake*. *L. shimeji* was long thought to be "uncultivable" because the mushroom is mycorrhizal, forming symbiotic relationships with tree roots.

Then there was the problem that the general public called other things shimeji. *L. shimeji* belongs to the *Shimeji* genus as well as the family *Ki-shimeji*, which confused things. People also called "buna-shimeji", *Hypsizigus marmoreus*,

Lyophyllum shimeji

Habitat: Mixed Japanese Red Pine forests in soil with good drainage; September-November

Growth: Individually and in clusters; mycorrhizal

Cap: Slightly silky; patches of color; 4-10 cm

Stalk: White; bulbous base; 7-10 cm in length, .5-1 cm diameter

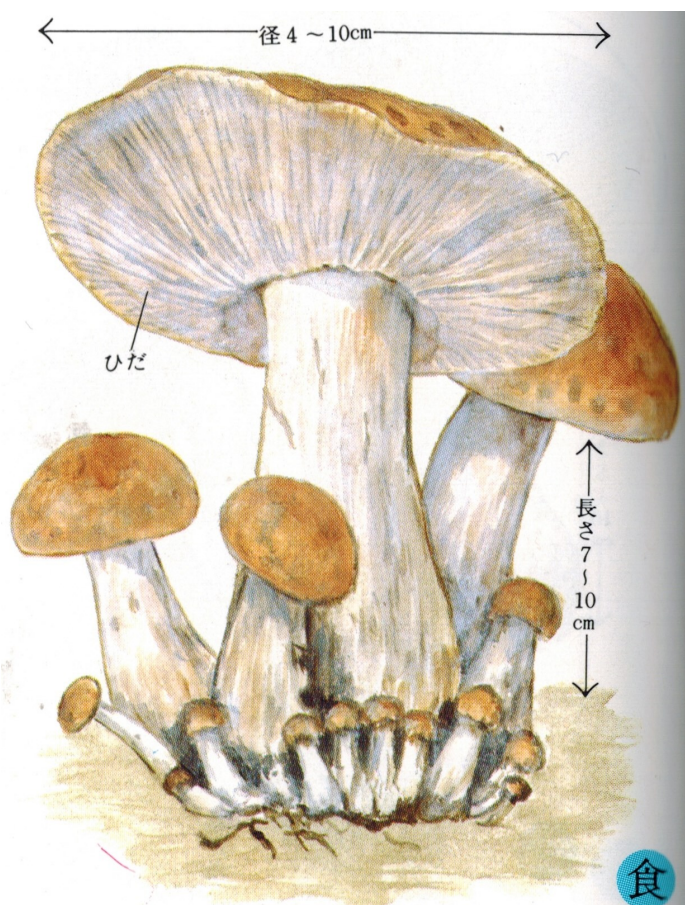
Gills: White to light cream; notched or attached

"hon-shimeji", not understanding their egregious mistake (according to mushroom snobs). *Hypsizigus marmoreus* is now widely consumed in Japan and has been cultivated since 1973. Adding to the confusion, the company which patented the cultivation of "hon-shimeji" in 2006 slyly tried to make their brand "Daikoku shimeji" the new "official" name for the mushroom.

Believe it or not, the shimeji taste is shrouded in mystery as well. "The fragrance of the matsutake, the taste of the shimeji" one saying goes in Japan. But what is that taste? Japanese chemist Ikeda Kikunae identified a flavor in 1908 which he identified as "umami" which he added to salty, bitter, sweet, and sour spectrum. "Umami" has been identified as one taste often associated with food such as the Japanese flavor given to soup stock by bonito flakes and kombu dashi. It turns out that *L. shimeji* is abundant in glutamic, and aspartic acids which give foods "umami".

Plenty of nostalgic lore is attached to the mushroom as well. Hongo Tsuguo, the mycologist who published the mushroom in its current genus, recalls fondly in his memoirs collecting shimeji with caps more than 10 cm in diameter and eating them braised in oil with green onion with his family.

There is also something other-worldly about the price: a 500-gram gift box can cost \$60 CDN.



161. ホンシメジ

161. ホンシメジ(シメジ)(食)
[シメジ属] きしめじ科

Lyophyllum shimeji (Kawam.) Hongo

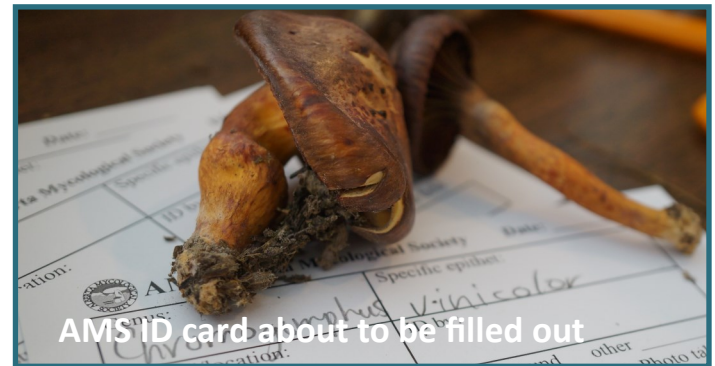
The AMS Database

Barb Shworak

You may wonder how the mushrooms we pick at our Great Alberta Mushroom Forays are recorded. There are several steps: identifying the mushroom, assigning a scientific name, entering the find into the database, photographing the specimen, taking photos, taking DNA samples, waiting for DNA results, and correcting data if necessary.

As you can imagine, this data entry process can be sped up with an effective electronic entry pro-

cess. However, the current process for typing the data for each mushroom into the data base has been tedious. The entry person has to scroll back and forth in order to get all the information in. The screen text is too small for some people to read quickly. There are often spelling errors or other mistakes which get entered which will need to be corrected later. Some information, e.g. a default latitude and longitude, are entered long after the foray is complete. Our present data entry portion of the foray is the bottleneck in the mushroom identification process.



Barb Shworak is our Regional Co-Representative for the Calgary region. At the 2013 Foray, she immediately noticed that our database entry system could be improved and took it upon herself to design our new input system, which took many, many hours of her time. All of us who volunteer for this input job will have Barb to thank to make our lives much easier in the future. Kudos to you Barb! (Melanie Fjoser)

In order to speed up the whole process, a new form entry system has been created. The form is has become programmable and greatly reduces the chance of spelling mistakes. The text is large and easy to read. Several of the fields (e.g. species), are now drop-down lists, where the user just chooses a value instead of trying to type in the whole string. Other fields are check boxes (like substrate), that get merged together with

Fungal Factoid

Imagine that one day you came down with symptoms including lethargy, anorexia, frequent urination, burning thirst, headache, vomiting and shivering. How would you know that you were poisoned by a mushroom you ate three weeks ago? Orellanine, contained in some *Cortinarius* species, is one such baffling poison. The *Cortinarius* genus was long thought to be a "safe" genus until 100 people fell ill in Poland in the 1950s and Dr. Stanisław Grzymala noted all the victims had ingested a *Cortinarius* species. There are two known *Cortinarius* species which contain the orellanine toxins: *C. rubellus* and *C. orellanus*, the "Deadly Webcap" and the "Fool's Webcap".

CSI Castle Mountain

John Samoil

The words 'DNA' and 'hammer' usually conjure up images of a CSI show and not what you would expect from attending the Great Alberta Mushroom Foray. Yet there I was, late one evening, taking a hammer to small pieces of mushrooms that had been collected at the Foray at Castle Mountain in August.

Following the lead of Dr. Tom Bruns, one of the drivers of the North American Mycoflora Project (<http://northamericanmycoflora.org/>), I sat with tweezers in one hand and hammer in the other waiting for my chance to whack some fungus into mycological database history.

The procedure involves taking a tissue sample from one of the mushrooms that had been previously identified and photographed and placing it on a Whatman card. The Whatman card is made of

a chemically treated paper that extracts DNA from a tissue sample. The card contains an area with four squares for individual samples and a fold over cover for protection. The process is very straightforward and is designed for taking samples in the field.

Once the sample is placed on the card, the cover is closed and then with a 'tap' of the hammer, the contents of the mushroom cell are broken open and stained onto the card. The card is then labeled with a number cross referenced to the

photo and the dried collected specimen so that identification can be confirmed.

To see the process in action go to: <https://www.youtube.com/watch?v=Gir56iYspTE>. While the DNA analysis is sophisticated, the hammering is simple!



Who is involved in the Alberta Mycological Society?

The AMS is made up of people living in communities all across Alberta – and beyond! We value all of our members, and encourage you to participate in and get the most out of our Society, whether it is in a "Foray in *Your Neighbourhood*", on the Board of Directors, or helping out for a specific event / project.

Thank you for being a Member of the Alberta Mycological Society! (The following list is from August, 2013, and may not include new members since then).

Alberta Members - Ardrossan, Athabasca, Banff, Barrhead, Beaumont, Bellevue, Blackfoot, Bluesky, Boyle, Bragg Creek, Breton, Brule, Buck Lake, Calgary, Canmore, Cherhill, Cochrane, Colinton, Cremona, Crossfield, Daysland, Devon, Didsbury, Donnelly, Drayton Valley, Duffield, Edmonton, Edson,

Fort McMurray, Fort Saskatchewan, Fort Vermilion, Gibbons, Grande Prairie, Gunn, Hinton, Lac La Biche, LaCombe, Lamont, Leduc, Leduc County, Lundbreck, Madden, Morinville, Nanton, Onoway, Peace River, Red Deer, Rocky Mountain House, Seba Beach, Sedgwick, Sherwood Park, Smoky Lake, Springbrook, Spruce Grove, St. Albert, Stony Plain, Sturgeon County, Thorsby, Tofield, Tomahawk, Two Hills, Valleyview, Vermilion, Vimy, Water Valley.

Outside Alberta: **B.C.** – Fort St. John, Halfmoon Bay, Salmon Arm, Sidney, Victoria; **Saskatchewan** – Craik, Fort Qu'Appelle, Lashburn; **Manitoba** – Morden; **Northwest Territories** – Yellowknife; **United States** - Santa Cruz, California.

Submitted by Melanie Fjoser

“Funguys” in the Park

Chad Moss

This summer the Alberta Mycological Society and Shovel & Fork (an Edmonton based food education company) teamed up to enjoy an evening in the park cooking, eating and sharing knowledge.

Shovel & Fork (Chad Moss and Kevin Kossowan—both members of the AMS) did an impromptu mushroom cook-up at a Thursday evening “Foray in *Your Neighbourhood*”. They started by rendering down some delicious Guanciale (dry cured bacon from the jowl cut) and sautéing a selection of mushrooms for the participants to try.

Returning from the field, Martin Osis identified mushrooms one by one, separating out edible, non-edibles and questionable specimens, as Chad cooked them in different ways experimenting with cooking techniques to stabilize potential toxins and/or off-flavours in certain types of *Russula*.

The results were fantastic! It was perfect weather for an evening foray and cook-out. Members in



attendance left no mushroom uneaten—it was an all-around enjoyable event.

Let this be our nod and wink for next year. You never know when or where we will celebrate a foray in the park....

Chad Moss is AMS Culinary Committee Chair.



Tales from the Field



Watch for more Southern AB Events...

We are planning a Foray for the July 2014 long weekend in the Porcupine Hills region. We would like to find a group campsite with perhaps hostel accommodation and a building to put our finds in. We would like anyone who picks mushrooms in this area to contact us via email to give us an information on where we should look, pick, and/or stay.

We would also like to know how many people are interested in attending monthly meetings to learn more about mushrooms. If we can get enough participation, we are considering planning something at Mount Royal.

Barb is looking for people to help organize these events. Anyone interested can contact Barb at bshworak@yahoo.com. —**Barb Shworak**

But watch for bears too...

Mushroom pickings were slim at one of our forays this summer so participants left in groups to nearby areas in search of greener (moister) pastures. Andre, Lorraine, Noella and I went about 3 km to the east of Weald Provincial Recreational area to an open spruce/pine forest to check for edible mushrooms. There we encountered two grizzly bears feeding on clover on a pipeline right-away.

Although the bears were less than 100 feet away from us, the wind was in our favor and they did not know we were present. We took a few quick photos and exited in the opposite direction fast. You never know when you will encounter bears while foraging for mushrooms so always stay in close contact with your group and always BE BEAR ALERT. —**Ken Dies**

The Peace Report

Ken Dies

Grande Prairie AMS Activities

On July 13 Martin Osis arrived at the Five Mile Hall, Grande Prairie as the guest speaker for over 150 Agricultural Garden tour participants at a luncheon sponsored by the County of Grande Prairie. His presentation on mushrooms and the AMS was well received; many mushroom field guides and all the posters we had sold out. In the afternoon we visited the Grande Prairie Regional College to explore the possibility of the Great Alberta Mushroom Foray being held in this city in 2015. Our next stop was the Center 2000, comprised of the visitor centre, museum, and art gallery, to arrange the showing of our mushroom photo display that was recently displayed in the Royal Alberta Museum in Edmonton) to coincide with the 2015 Great Alberta Mushroom Foray. In the evening we held a foray for the Grande Prairie Naturalists Club where about a dozen interested members participated in a walk and talk at the Nordic Cross Country Ski Trails. On Saturday morning, we held another foray at South Bear Park for the general public. Although it was pouring rain, nine interested souls showed up. We found lots of mush-

rooms and had the opportunity to see a rare mushroom, *Helvella atra*.

A weekend foray was also held August 2-5 at the Waskahigan Provincial Recreation Area. The weather was lovely and the mushrooms were plentiful. The facilities were very adequate with a new camp kitchen where we filled four picnic tables with well over 50 species of mushrooms.

Woolly Inky Cap (*Coprinopsis lagopus*)

One of my favorite urban mushrooms, *Coprinopsis lagopus*, usually occurs in small groups in soil, sawdust, wood chips or lawns in parks and settled areas. However, it is equally at home along trails and clearings in deep forests. This dainty mushroom is part of a complex group of similar inky caps and, for the amateur mycologist, a group too mind-boggling to even try to differentiate. All emerge as a cylindrical mass resembling a bottle brush with extremely fine bristles. As it matures the fragile hollow white stalk is covered with minute white hairs. The cap is gray to bluish grey and is covered with coarse white fibrils, remnants of the universal veil tissue. This cap normally splits and curls up and back before deliquescing in wet weather or just drying up. This fragile mushroom is likely more common than generally ob-



Edibles Collected

Leccinum insigne

Leccinum scabrum

Hypomyces luteovirens

Lycoperdon perlatum

Lyophyllum decastes

Russula aeruginea

Russula fulvescens

Russula xerampelina

Suillus subvariegatus

Tricholoma flavovirens

Pleurotus populinus



Coprinopsis lagopus

served, as its lifespan is extremely short, usually lasting not more than a few hours. I have yet to see one last a full day. Keep your eye open for this handsome little mushroom.

AMS Event Schedule

Many more forays and meetings are being organized—
check our website often; paid members will receive details
by email.

February

Saturday, February 22 Chaga FORAY & Medicinal Mushroom Workshop -
members receive details by email.

March


Saturday, March 29 (9:30 - 4:30) Annual General Meeting @ NAIT, Ed- monton. All welcome.	Saturday, March 29 (6:00pm - close) President's Dinner, Ernest's @ NAIT, Edmonton. Registration forms available on website.
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April

Wednesday, April 23 (7-9 pm) Indoor Meeting @ Edmonton Public
Library, 4211 - 106 St. NW, Edmonton. Speaker TBA. All welcome.

May

Wednesday, May 28 (7-9 pm) Indoor Meeting @ Edmonton Public
Library, 4211 - 106 St. NW, Edmonton. Speaker TBA. All welcome.



Plan now to attend The Great Alberta Mushroom Foray to
be held at Goldeye Centre, Nordegg area on the Labour
Day weekend Aug 29 - Sept 1, 2014. Registration details
will be posted on website and emailed to paid members as
they become available.