Fungifama

The Newsletter of the South Vancouver Island Mycological Society
April 2007

Introducing the SVIMS Executive for 2006

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To broadcast a message to SVIMS members via email: svims-l@victoria.tc.ca

SVIMS web site: www.svims.ca

Dues: **$20.00 per year** per household, payable in January by cheque made out to SVIMS or by cash at meeting.

Meetings: First Thursday of the month (no meetings December, January, July, and August), 7:00 p.m. sharp at the Pacific Forestry Centre, 506 Burnside Rd W, Victoria. Lots of free parking. The meeting room is near the main entrance door. Non-members welcome.

Monthly Meetings:

June: President's picnic.
Date TBD. Watch the website for updates.

Mycological Websites

Mushrooms and lichens in Ecuador
www.ecuador-images.net/fungi.htm

Bob and Jean help in the kitchen at the Survivor's Banquet

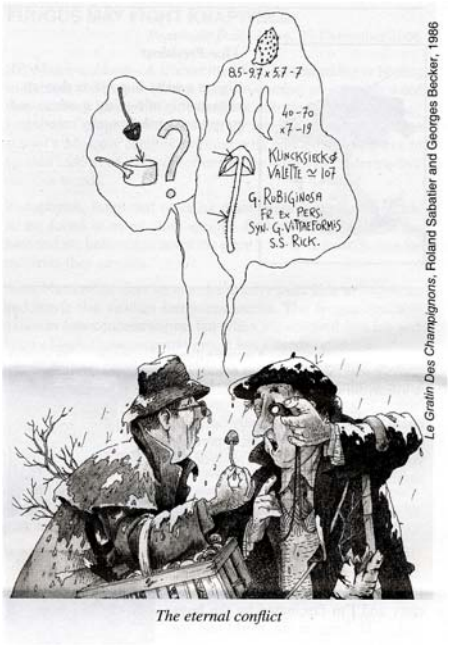
Prez Sez

Forest Creation & Potential for New Mushroom Spots!

Forested land is being lost all over the world. Forests are being cut down for the purpose of growing plants to replace fossil fuels. Sugar and starch producing plants like corn and sugarcane are turned into alcohol as a gasoline replacement, oil producing plants like rape and palm are used as full or partial replacement for diesel fuel and a mix of plants are used to produce methane as a substitute for natural gas. A growing proportion of land is taken away from food and feed production and put into energy

production. In B.C. some lands where the pine beetle has destroyed the forests, new agricultural land might be created. With this decrease of forested land, mushroom habitat is lost.

However, there seems to be a new trend for creating new forests. Some states in the US, especially the western states, have joined a new alliance for C02 management. Under the term "cap and trade", carbon credit and debits are traded on a new exchange in Chicago. Interestingly, B.C. seems to be eager to join. According to some publications, carbon credits can be earned with planting trees in, up to now, not forested areas. The assumption would be that large tracts of marginal land, which are not forested and not worthwhile to be used agriculturally, will be forested. With the cap (the allowable free amount of CO2) being reduced year by year, carbon credits (CFI's -carbon financial instruments) will become more and more valuable. Therefore, we may anticipate new mushroom hunting grounds. The planting of trees on a larger scale in previously not forested areas, especially if a mix of species is used, and the change to a new forest environment will be very interesting to follow, e.g. which mushrooms come first, how they spread etc. For more information search in Google using the terms ccx +"al gore" +cfi.



The eternal conflict

LOCAL EVENTS AND FORAYS:

Swan Lake Mushroom Show

- October 29, 2006
- Swan Lake Nature Centre

FAR AWAY EVENTS AND FORAYS:

Saturday, May 12 - Manning Project
Details will be posted at www.vanmyco.com
Saturday, May 26th - Mayne Island
Details will be posted at www.vanmyco.com
June 2 - 3 - Manning Project
Details will be posted at www.vanmyco.com

July 13-27
State University of New York College at Cortland is offering a Field Mycology course at Raquette Lake in the Adirondacks. Instructor: Dr. Timothy J. Baroni, Professor of Biological Sciences. For detail contact Dr. Baroni at BaroniT@cortland.edu.

July 21-Aug 8
Fungal and Floral Summer Exploration in Kham - Eastern Tibet
Journey through incredible landscapes and exotic culture. Tibetans will accompany us on our mushroom forays as we hunt for a variety of mushrooms, which we will then enjoy in delicious culinary sensations both Tibetan and Chinese. Altitudinal zones range from warm-temperate to alpine areas up to 15,000 ft (4600m) for a wide range of ecosystems.

We will find true matsutake, Caesar's mushroom (*Amanita caesarea*), all kind of boletes including King boletes, chanterelles, lion's mane and more exotic species. Of special interest is also the matsutake trade, which dominates the local economy in these months. In alpine grasslands, mushrooms such as Ser Sha, the Golden Mushroom, a very tasty *Armillaria* and several *Agaricus* species are fruiting. We will visit mushroom markets and surely encounter yartsa gunbu, the Caterpillar fungus (*Cordyceps sinensis*) all over. Among hundreds of wildflowers we will find wild species of lilies, delphiniums, cremathodiums, edelweiss and fields of pedicularis. June thru September is monsoon season. Please note that the monsoon in Tibet is nothing like that in the south slope

Himalayan areas; there will be some rain, but not enough to deter us and rainy days are balanced with sunny skies.

More info at www.danielwinkler.com

September 14, 15, 16, 2007
Vancouver Mycological Society Manning Park Foray
At the "Last Resort" in Manning Park. The number is limited to 52 people. The cost is $100 for the weekend which is due in full at the June meeting.
www.vanmyco.com

September 21-30
Foray to the southern Mexican state of Chiapas. Habitats will range from cool pine cloud forests to dramatic lakesides to lush, riverside jungles and, as a bonus, the chance to experience unmatched archeology, indigenous arts and cultures and colorful local traditions. Throughout there will be a focus on fungi, led by top bilingual mycologists. Details and an itinerary outline at www.mexmush.com.

September 24 - 30, 2007
Si-ca-mous & Shu-swap Lake Wild Mushroom & Food Festival
Identify & pick wild mushrooms and enjoy a gourmet experience in the Shuswap area. The festival will provide guided tours every day Monday to Sunday ranging from Walking Tours, Boat Tours, and Own Transportation Tours.
www.shuswaplakemushroomfestival.com

October 28, 2007
Vancouver Mycological Society Mushroom Show
www.vanmyco.com

OTHER MYCOLOGICAL EVENTS:

Models of Mycology on Display at University of Victoria
The exhibit, in the foyer and mezzanine of UVic's University Centre, is on now until July 2007. Admission is free. For more information, contact the curator at 721-6313.

ARTICLES OF INTEREST

Could Ancient Mushroom Magic Banish A Modern Medical Scourge?
Science Daily — Diabetes, heart disease and obesity are on the rise in Australia, thanks to our sedentary lifestyle and poor diet. Now researchers are set to test if an ancient mushroom once used by Chinese royalty can help western medicine tackle 21st century health problems.

A team from the University of Western Sydney's Centre for Complementary Medicine Research (CompleMED) is working with the Cardiac Health Institute to find out if the medicinal mushroom, *Ganoderma lucidum*, can reduce high blood sugar, often a precursor to diabetes - as well as treat other health problems.

The clinical trial is the first of its kind to rigorously test the mushroom - known in Asia as the 'King of herbs', because of its huge range of medicinal properties - and needs 170 Sydneysiders to take part.

UWS PhD researcher Nerida Klupp hopes the findings contribute to western medicine's knowledge of this Chinese herbal fungus, and provide much-needed clinical evidence of a possible new treatment for people with metabolic syndrome.

"Many people in Australia have high blood sugar, which is often classified as diabetes or pre-diabetes. Many also have other medical problems such as high blood pressure, obesity and high cholesterol," she says.

"Scientists and doctors now know these conditions are linked, and a person with at least three of these health problems is diagnosed with a condition called metabolic syndrome - also called 'Syndrome X'. Affluent countries with lazy lifestyles and bad diets are at particular risk, with 44 per cent of Americans aged over 50 years of age diagnosed with metabolic syndrome. While we don't really know how prevalent the condition is here in Australia, we suspect similar trends to those in the United States," Ms Klupp says.

"Statistics show many Australian adults already have key indicators of metabolic syndrome, with more than 50 per cent

overweight, almost a quarter have problems controlling blood sugar, and a fifth with high blood pressure - anyone with all three has the syndrome and risks shortening their life expectancy," she says.

Dr Hosen Kiat, director of the Cardiac Health Institute says it can be difficult to treat those with multiple health problems.

"Currently there is no single pharmaceutical treatment for metabolic syndrome, which is why we are conducting the first randomised clinical trial to test if this medicinal mushroom can offer western medicine an effective, long-term treatment to help lower blood sugar as well as control other problems associated with the condition," he says.

Nerida Klupp says the mushroom has been revered in Asia for over 2000 years. "Ganoderma lucidum, which is also known as Reishi, has long been used to fight a wide range of diseases, and was thought to be the 'elixir of immortality' - enhancing vitality and helping to delay ageing," she says.

"At its most rare, it was only available to Chinese royalty due to its mystical properties." Thankfully, there has been increased cultivation of the herb over the last thirty years, and preliminary animal and human pilot studies have proved promising, suggesting it can have a positive effect on blood sugar levels, cholesterol levels and blood fats.

Traditionally, *Ganoderma lucidum* has been considered to be even more potent when taken in combination with another medicinal mushroom called *Cordyceps sinensis*.

"*Cordyceps* is also thought to have significant health properties, so we want to find out if *Ganoderma* is effective on its own, or whether it works better in combination with the second mushroom," says Ms Klupp.

Dr Dennis Chang, from the UWS CompleMED Centre and a supervisor on the trial, says the study will be the first of many for a newly formed collaborative research team. "The Cardiovascular Research Group draws together expertise in complementary medicine through CompleMED at UWS and the clinical expertise of the Cardiac Health Institute. The group will investigate complementary medicines as potential treatments for cardiovascular disease, which still kills more Australians than other disease," says Dr Chang.

Note: This story has been adapted from a news release issued by University of Western Sydney.

Enthusiastic participants help the crowd *Guess the Mushroom* at the SVIMS Banquet.

FUNGUS AFFECTS PORPOISES

Everett Herald

Reprinted from Spore Prints, Number 429, February 2007

A fungus that has killed four people in British Columbia is also affecting marine mammals, as well as dogs, cats, ferrets, birds, and horses.

“It is a rare disease here, and possibly an emerging disease,” said Mira Leslie, who until recently was Washington state’s public health veterinarian. Tests have confirmed that *Cryptococcus gattii* has spread from Vancouver Island and possibly turned into the world’s first known multispecies outbreak, said Stephen Raverty, veterinary pathologist with the Animal Health Center in Abbotsford, B.C. Raverty has conducted necropsies on many of the animals stricken by the fungus. So far about 25 porpoises have died of the disease in the Pacific Northwest since 1999.

No one is sure how *Cryptococcus gattii* wound up in British Columbia. It is typically found in Eucalyptus trees in the tropics of Australia. Some think the fungus came to the area on a ship, on a Eucalyptus tree, or even on the bottom of shoes. Others think the fungus has lived in the area for years but

wasn't a threat to animals until temperatures increased. Laboratory tests indicate the fungus can reproduce in salt water.

Raverty thinks porpoises become infected when they inhale a small amount of pathogen-filled water in their blowholes. The disease spreads to their lungs, often causing lesions. Many of the affected porpoises washed ashore were emaciated.

About 25 people become infected with *Cryptococcus* each year. Last year, the disease was found along the Vancouver Island coast and in the Fraser River Health District of British Columbia. In Whatcom County last year, one cat died of the fungus and two others were infected. A Washington man was also diagnosed with the disease, but he likely picked it up while traveling, said Leslie, who is currently an adjunct professor at Washington State University. He recovered. It isn't clear if the fungus is to blame for the recent surge in harbor porpoise deaths in Washington. There has also been a surge in Oregon.

Known porpoise deaths have numbered around 30 per year since 2003 but this year 47 dead harbor porpoises have been found in Washington and Oregon. Most have washed ashore near inland waters. Raverty said about 10 percent of those porpoises tested positive for the fungus.

THE PRODUCTION OF INK FROM THE SPORES OF FUNGI Rolf Singer

Priroda [*Nature*], No. 1, January 1938, pp. 121–123,

Translated from Russian by Elena Sivan-Loukianova, transcribed by Dean Abel, via *Symbiosis*, newsletter of the Prairie State Mushroom Club

Many mushrooms produce spores with dark pigments that may be used for producing ink for calligraphy and printing. Species so employed are found in the genera *Lycoperdon Bovista*, *Pisolithus*, *Polysaccum*, and *Scleroderma* among the Gasteromycetes and also species of the Ustilaginea [rusts], Elaphomycetales [truffles], and even Myxomycetes [slime molds]. But until now no experiments have been carried out to study the serviceability and usefulness of such inks.

More than 100 years ago the French mycologist Buillard [Jean Baptiste Francois Bulliard, 1752–1793] recommended the dung loving species of *Coprinus* [Inky Caps] for producing ink. Herein is reported the satisfactory results obtained using inks prepared from *Coprinus atramentarius* [the Alcohol Inky Cap] and *Coprinus comatus* [the Shaggy Mane or Lawyer's Wig] which are common fungi found in gardens and other rich places.

In the Soviet Union many mushrooms with a cap possess interesting possibilities. *Coprinus* species have gills which are very close together and the edges of which are not perpendicular to the stem even upon maturity, and because of that the spores do not fall downward to be spread by the wind. Instead the gills deliquesce or dissolve and become smeared upon passing animals which spread the spores.

C. and *C. comatus* are the largest inky cap species common in Europe and Asia. As an edible mushroom *C. comatus* is good, but it does not make as black an ink as *C. atramentarius*. Thus this report will limit discussion to the latter.

C. atramentarius has a cap that is gray brown, furry, and with central flakes or scales upon the surface. The cap is striate and shaped like an egg or a bell 5–10 cm in diameter. The gills are at first white, then brown, and finally black and melted together. The entire cap becomes an inky liquid. The spores are ellipsoid 7.5 – 11 x 4.5 – 6.5 microns; the stem is white and hollow; the inferior ring or annulus about the stem soon disappears. The trama or flesh of the mushroom is white to gray brown and without odor. It fruits in dense clusters from May to November. [This description is an abridgement of the technical diagnosis in the original].

With regard to making ink it is important to collect the mushroom before it is fully deliquescent and thus too old. On the other hand, if the harvested material is not developed enough, then the quality of the ink will be bad. One must filter the fungal liquid through thick mesh cheesecloth and then decant and discard the top clear layer of liquid above the dark residue of the spores. This separates the unpigmented material

from the spores. The inky deposit is quite gritty and therefore one should add gum arabic to promote adhesion. [Historically, gum arabic — a water soluble gum obtained from several species of the acacia tree — was used to increase the viscosity of ink, or to make it flow well, to prevent it from feathering, and to suspend the coloring matter]. The native ink has two features: (1) it has an unpleasant smell, and (2) it tends to separate and form a hard precipitate. Therefore, in addition to gum arabic, a perfume such as clove oil is incorporated which also helps preserve the ink. Before using a pen with a nib, shake the ink in the bottle. Spore ink produces a pleasant black-brown color similar to Chinese inks. The ink may be saved for as long as 8 years. As a natural science exercise, students could prepare ink for themselves for use in school.

Herbarium slides of spore prints are very stable, and the spore ink is permanent. The shape of the spores in the ink is constant, and it is easy to look at the paper with a microscope to confirm that a signature on an important document agrees with the original ink.

Oxalic acid from sorrel does not destroy or bleach the pigment of the spores, and therefore spore ink ensures protection against forgeries employing detergents or acids to erase the writing. Indeed, inks produced from different mushrooms could be used as “fingerprints” to uniquely identify different writings.

What’s the mushroom?

ANNOTATED KEY TO PACIFIC NORTHWEST POLYPORES

Good news from Pacific Northwest Key Council: Jim Ginns has prepared for Key Council the following guide to Pacific Northwest polypores.

The key may be viewed or downloaded free as a web page or as a Word document at http://www.svims.ca/council/keys.htm

The following is from the Introduction.

"Of the nearly 230 polypores in the Pacific Northwest about 80 are treated in this key. Most are relatively common but some unusual or rare species are included. The initial version of this key by Daniel Stuntz was completed in the summer of 1980. Since then a large number of changes have been proposed in the circumscription of species and genera, new generic names have been widely accepted and new synonymy has been proposed. To reflect these and other changes extensive revisions have been made to the key and the Notes section has been completely rewritten. The *North American Polypores* by Gilbertson and Ryvarden (1986-1988) has been adopted as the standard for names of genera and species, technical terms, as well as for the characterization of the macro- and microscopic features for most species. Three new features are the addition of common names, references to color pictures of basidiocarps, and a glossary of technical terms."

Deadly fungus prompts B.C. travel alert

Rare tropical pathogen infected a Danish man visiting Vancouver Island

Reprinted from the Seattle Post-Intelligencer February 13, 2007

By Carolyn Abraham, The Globe & Mail

A tropical and potentially lethal fungus that has mysteriously made a home on Canada's temperate West Coast has prompted foreign medical experts to issue a worldwide alert to doctors and tourists.

The warning comes after a 51-year-old Danish visitor contracted the rare and life-threatening fungal infection on Vancouver Island. In the January issue of the Journal of

Caution: The South Vancouver Island Mycological Society (SVIMS) newsletter, Fungifama, is not intended as an (online) identification or medicinal guide to mushrooms. There are risks involved in eating and in using wild mushrooms. The possibility may exist that you are allergic to a specific mushroom, or that the mushroom may be anomalous. SVIMS, Fungifama and the authors on this site warn that the reader must accept full personal responsibility for deciding to use or consume any particular specimen.

Emerging Infectious Diseases, published monthly by the U.S. Centers for Disease Control and Prevention, doctors in Denmark -- who eventually found clumps of the fungus growing in the man's chest -- have cited the island as a potential health risk to travelers.

Cryptococcus gattii, a microscopic pathogen normally found in tropical or subtropical locales in Australia, Africa, India or South America, was first identified on Vancouver Island in 2001. Many suspect that global warming has recently enabled the one-celled organism to thrive in the trees, soil, water and air along the island's east coast.

While chances of contracting *C. gattii* remain low, the airborne cells and spores can lodge deep in the lungs, leading to pneumonia. The fungus can also attack the central nervous system and result in meningitis. As of December, 165 people had been infected and eight have died.

Animals have been hardest hit. In Washington state, *C. gattii* killed a cat and sickened two others in Whatcom County, a former state public health veterinarian, Almira Jane Leslie, told The Herald of Everett last fall. The fungus also has infected dogs, llamas, ferrets, pet birds and horses, and the corpses of infected porpoises have washed ashore, making this one of the world's few, true multispecies outbreaks.

Human cases have emerged on the B.C. mainland and in Oregon and Washington state.

"We are now up to 33 cases per million. We surpass any other place in the world," said Dr. Pamela Kibsey, medical director of microbiology at the Vancouver Island Health Authority.

Still, Dr. Murray Fyfe, medical health officer for the health authority, said the Danish report should be put in perspective. "You are more likely to die in a motor vehicle crash going to the park," he said.

Dave Petryk, president and chief executive of Tourism Vancouver Island, said the Danish alert should "not dissuade travelers from visiting the island." He said that the risk of infection is extremely low and that "people travel to other destinations with far worse health risks."

The Danish man who prompted the alert was admitted to the hospital with fever and chest pains radiating to his left shoulder. Over the next five days, as his fever spiked and he struggled to breathe, a lung biopsy revealed that he was infected with *C. gattii* cells he inhaled during his trip to Canada.

Dr. Jens Lindberg and colleagues from Denmark's Herning Hospital "recommend tourists and medical staff of health care centers worldwide be alert for symptoms of *cryptococcosis* after travel to Vancouver Island."

Yet there's evidence that awareness still lags in Canada and even on the island itself. Infections are usually curable with antifungal drugs when caught early.

Giving out prizes at the Survivor's Banquet.

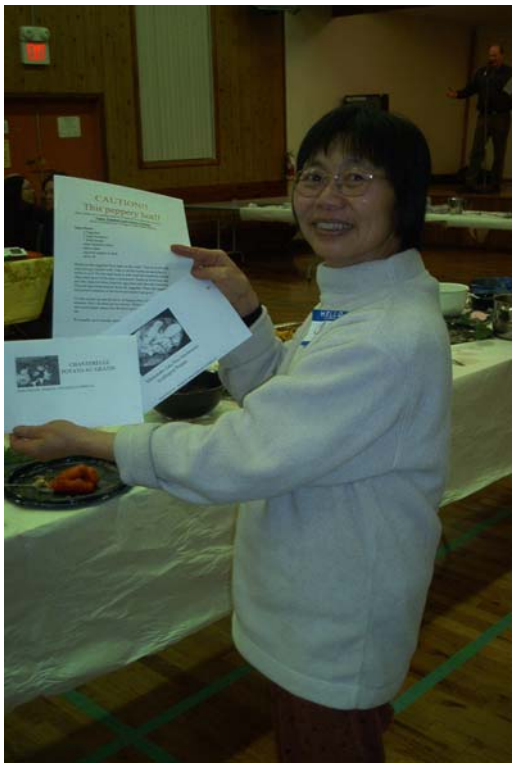
MEMBER NEWS

Welcome new members Jurgen Schlabitz & Pat Morrison.

Welcome new member, Marty Kranabetter from Smithers, BC. Marty is resident in Victoria for part of the year and has spoken to our Club on his research in the Smithers area.

Welcome new member, Tom Maler. Tom currently lives in the Toronto area and is a member of the Toronto Mycological Society but is making plans to relocate to Victoria soon. He hopes to join us on our club forays when in the area.

Thanks to our Gerald, our Survivor's Banquet MC!



Joyce shares Banquet recipes.