



OMPHALINA

ISSN 1925-1858



Newsletter of



Vol. IX, No 3
Apr. 1, 2018



FORAY NEWFOUNDLAND AND LABRADOR

is an amateur, volunteer-run, community, not-for-profit organization with a mission to organize enjoyable and informative amateur mushroom forays in Newfoundland and Labrador and disseminate the knowledge gained.

Webpage: www.nlmushrooms.ca

ADDRESS

Foray Newfoundland & Labrador
21 Pond Rd.
Rocky Harbour NL
A0K 4N0
CANADA

E-mail: [info AT nlmushrooms DOT ca](mailto:info@nlmushrooms.ca)

BOARD OF DIRECTORS

Michael Burzynski

PRESIDENT

Geoff Thurlow

TREASURER

Tina Leonard

SECRETARY

Jim Cornish

Jamie Graham

Anne Marceau

Faye Murrin

Michele

Piercey-Normore

Helen Spencer

Marian Wissink

CONSULTANTS

MYCOLOGICAL

Dave Malloch

NB MUSEUM

AUDITOR

Gordon Janes

BONNELL COLE JANES

LEGAL COUNSEL

Andrew May

BROTHERS & BURDEN

OMPHALINA, newsletter of Foray Newfoundland & Labrador, has no fixed schedule of publication, and no promise to appear again. Its primary purpose is to serve as a communications tool with members, and specifically as a conduit of information to registrants of the upcoming foray.

Issues of **OMPHALINA** are archived in:

Library and Archives Canada's Electronic Collection <<http://epe.lac-bac.gc.ca/100/201/300/omphalina/index.html>>, and

Centre for Newfoundland Studies, Queen Elizabeth II Library (printed copy also archived) <collections.mun.ca/cdm/search/collection/omphalina/>.

The content is neither discussed nor approved by the Board of Directors. Therefore, opinions expressed do not represent the views of the Board, the Corporation, the partners, the sponsors, or the members. Opinions are solely those of the authors and uncredited opinions solely those of the Editor.

Please address comments, complaints, contributions to the self-appointed Editor, Andrus Voitk:

seened AT gmail DOT com,

*... who eagerly invites contributions to **OMPHALINA**, dealing with any aspect even remotely related to mushrooms. Authors are guaranteed instant fame—fortune to follow. Authors retain copyright to all published material, and submission indicates permission to publish, subject to the usual editorial decisions. Issues are freely available to the public on the FNL website. Because content is protected by authors' copyright, editors of other publications wishing to use any material, should ask first. No picture, no paper. Material should be original and should deal with the mycota of Newfoundland and Labrador. Cumulative index and detailed Information for Authors available on our website.*

COVER

New species of gourmet truffle confirmed in NL. Phylogenetically a sister species to the most prized *Tuber magnatum*, this specimen was found serendipitously Sep, 2017, in an undisclosed location, growing with *Corylus cornuta*, our wild beaked hazelnut. See p. 4 for details, and p. 18 for late follow-up developments.

CONTENT

Editor's comments	2
Foray matters	3
New truffle!	
<i>Andrus Voitk</i>	4
Mycophagy—who's been eating my mushrooms?	
<i>Bill Bryden</i>	8
<i>Caloscypha fulgens</i> —orange spring cup	
<i>Henry Mann</i>	10
The Bishop's sketchbook	13
Lichens from the Pruitt-Murray collection	
<i>Wiersma, Padgett, Wagle</i>	14
In memoriam Gary Linkoff	
<i>David Rust</i>	17
Setting the record straight	
<i>Andrus Voitk, Henry Mann</i>	18
NL chanterelle Tee	19
Mail basket	20
Partners	inside back cover
Notice	back cover



Message from the Editor

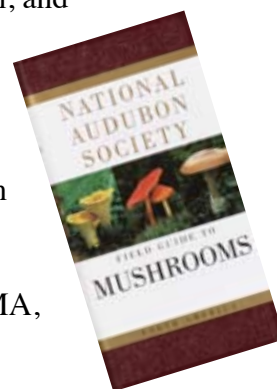
OMPHALINA always tries to bring word of new species of mushrooms found in our province, but this is potentially the biggest news it has ever carried. Fifteen years of forays in this province have given us a presence, so that people turn to us for help with mycological matters. And fifteen years of cataloguing and documenting our finds has provided a collection which permits significant investigations. These, in turn have garnered our small corner of the world sufficient cachet in scientific circles, that when we call for help, people listen and do their best. The result is the ability to help work out this potentially major development, which would otherwise never have come our way.

The the lead article will likely scoop the scientific press by several years, for reasons made apparent in the article. The paucity of factual information is made up by an unusual richness of introductory background. This article deviates from the usual OMPHALINA style of few words and many pictures, but as you will see, we just do not have any pictures. Sorry about all the pesky reading.

This issue brings the Pruitt-Murray lichen collection series to a close. It was a pleasure—the pages of OMPHALINA should always be open for local investigations, be they by students or others. The authors were a bit overly humble about the service their efforts provided. The object of identifying herbarial material is not solely to discover new or exciting species, but also to make collections useful. An investigator of *Cladonia* may wish to compare specimens from our province with those from elsewhere, but if ours have not been identified to genus, will be unable to request them for study. As Louis Pasteur said, “Fortune favours the prepared herbarium, and if specimens are not identified, the herbarium is unprepared.”* The identification of these specimens is a big service to the herbarium and

the mycological community.

Gary Lincoff led a Foray in Central Park, New York City, every Sunday he was in town, year round. He agreed to come to our foray a few years back, but had an earlier commitment, so most of us here have not met him in person. However, he cast a shadow considerably larger than his person, and has influenced the course of mycology, especially as enjoyed by amateurs, in a major way. As an example, no doubt many of you used and still use the Audubon mushroom guide. Gary was its author. Gary died a few days ago, and David Rust, president of NAMA, contributes an In memoriam.



ERRATUM

Last issue said *Suillus subalutaceus* has no ring. It does, but the ring may disappear with age. If you use that article as a source for your book on NL mushrooms, please change this bit.

Good mushrooming, and look forward to seeing you at the foray!

David Rust

*La chance ne sourit qu'à l'herbier bien préparé, ou alors quelque chose comme ça.

FORAY MATTERS...



The Avalon *Suillus* Foray

Normally we announce the upcoming foray in April, first to members, and 3–4 weeks later to the general public. This may happen this year as well, but more than likely with a month's delay. President Burzynski and First Lady Anne Marceau have just returned from an extended state visit to the Orient and other States of the Far East, so that fine-tuning of details is going on just as we go to press.

Date, place and **faculty**, are announced on the Notice on the back cover. **Registration Form**, instructions on **how to get there**, other important **information**, and further notices or information about the Foray will appear on this and other pages in the next and future issues.

Meanwhile, please note on the above Roger Smith photo that Salmonier Nature Park is equipped with all the prerequisites for *Suilli*: pine, larch and prone mycologists.

NEW TRUFFLE!



Andrus Voitek

September, 2017, a gentleman called to say he had found a truffle, and asked for my help in identifying it. He seemed to know a lot about truffles yet not a lot about mycology. He was so circumspect with facts and details, and clothed it all in such cloak-and-dagger mystique that I wanted to dismiss him as a crank. However, his explanation for his caution seemed credible, and his story so interesting, that I stayed with him through a very complicated identification procedure. Some of it is reported here in the belief that the dark underside of the truffle world has some general interest. For the sake of easier narrative flow, let us name this gentleman caller Bob (not his real name). Our conversations were right out of a spy movie. Bob said at the outset that he was calling from cheap drug store throw-away cell phones. There was no return number and all contact was to be initiated by him. He did not want any e-mail contact, because “that leaves a trail.” And so on.

But Bob seemed to know what he was talking about. While we have all heard of people keeping their mushroom spots secret for generations, and have heard of “mushroom wars” out west, even with guns fired, according to Bob this was several notches up in scale, and he really and truly thought finding a signifi-

cant source of upscale gourmet truffles would place his life in real and palpable danger. His concern, and reason for all this excessive secrecy, was that truffles are very expensive, and like diamonds, gold, drugs and money, they are small, easy to carry and untraceable. Anything with those qualities, attracts criminal interest.

The pettiest, and therefore least dangerous are laboratories putting synthetic aromatic compounds in inferior oil to sell at high prices as “truffle oil”. Virtually all “truffle oil” is made with synthetic chemicals. Even producers who use real truffles, admit to enhancing the flavour of their oils beyond the natural truffle. Also, beware of oils with dried bits of truffle at the bottom as testaments that real fungus was used. First, you do not know the provenance of these bits, which could just as easily be pieces of *Lactarius* or even dry chewing gum, but more importantly, the drying process eliminates all trace of the volatile aromatic compounds giving rise to the aroma and flavor of truffles, so that even if real, these bits are pure marketing attempts to suggest the oil has something which it does not. Profit to be made by misrepresentation—but no major threat to life or limb.

A step more dishonest are purveyors of inferior

truffle species sold as top of the line species. Easy money if dealing with the ignorant and unsuspecting, both chef and client. One notch up the scale again are vendors of trees inoculated with cheap truffles sold as the best. To the initial investment the grower adds a lot of time and effort, only to reap an inferior product. This damage extends beyond the grower, because the more aggressive inferior species escape into nature, replacing more valuable native truffles. They satiate regions without truffles, providing more inferior crops for the market, and in regions with highly desirable truffles, like France and Italy, many classical areas have been invaded by these inferior species, outcompeting traditional natives. These days DNA testing is used widely to identify what is sold, causing great losses for the cheated producer. Harmful and dishonest behaviour, with little chance of getting caught, but generally not dangerous to others in the business.

However, Bob's point is that contrary to what one may believe from movies, crime syndicates have no like for drugs. They don't care what they move, as long as the price is high, demand exists, and the product is portable and untraceable. If truffles are easier to get and move than drugs, they prefer truffles. And, as we know, organized crime is successful not only because it is well organized, but also because its dealings are governed by different scruples from those of remaining society. If you get in their way, well, permanently eliminating risk or resistance is not personal, just a matter of cold efficiency. Truffle patches are rustled, warehouses plundered and dealers robbed, and, yes, people murdered. This will continue, so long as it pays. Like any good business, it sprouts equally lucrative by-products. For example, there is a good market for stolen prize truffle dogs. There is always somebody, who is willing to buy a trained dog cheaply, no questions asked. Or cheap truffles.

Bob told me gory tale after gory tale, and seemed to be very aware of the world he was entering with his discovery. When I tried to check his stories on the internet, most of them (including murders) had indeed been reported in some press, somewhere. What looked to me like excessive, even ridiculous precaution, was perhaps not so foolish after all. Anyway, after checking out some of his stories, I stopped my gentle mocking of his prudence during our subsequent phone calls. According to Bob, if his find ranks with the best truffle species in the world, it would command prices which currently fetch over \$3,000 (US) a pound. Since truffles live underground, they could be there in massive amounts, without our knowing.

Once a new significant source becomes rumoured among people in the truffle business, it would attract unwanted attention, and the life of the owner of the information, in this case, Bob, would be in immediate and real danger.

Bob's find was serendipitous. The story came out over several phone calls, after some relationship and trust had been built. Apparently Bob has a friend on the mainland, Paul (not his real name), who trains dogs, specializing in scent training, mostly those who seek drugs and explosives at the border and airports, but

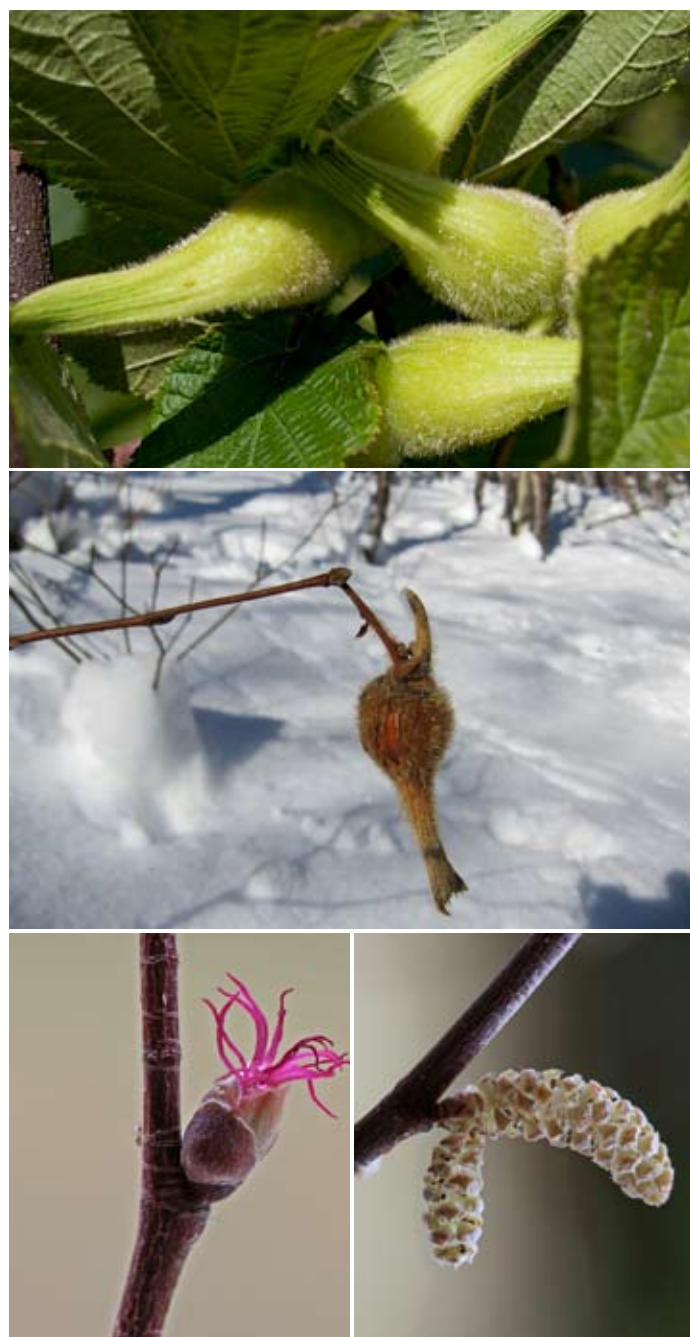


Figure 1. *Corylus cornuta*, our beaked hazelnut, host species for Bob's truffle. Late summer fruits above and winter nut, middle, make it clear why it is called beaked or *cornuta*. Below: female (L) and male (R) flowers. These should bloom in a few weeks. Not Bob's photos, of course.



Figure 2. *This small black nubbin of truffle bought many years ago in San Francisco represents my only experience with the delicacy. Rather than shave it on top of fried omelette, I shaved it into the omelette batter and then fried it, thereby losing 90% of the alluring odour and flavour!*

also truffle dogs. (The days of the truffle pig are long gone. Very good at finding truffles, pigs are hard to control, and often eat the truffles. Dogs have no use for truffles as food, are smaller, obedient, and easier to control. Good truffle dogs are worth a major fortune.) Paul came to visit with one of his truffle dogs. “Just for fun” they went out to see if they could find any truffles. Their third outing resulted in the unexpected source of this story. This chance discovery helped convince me that Bob’s claim of familiarity with the world of truffles was not an exaggeration, because as Louis Pasteur observed, fortune favours the prepared mind.

Another thing that helped me to believe his story was that he passed a “lie detector trap” that I set for him. When he described his find, he did not understand my question about the “host”, so I explained what a mycorrhizal relationship is and said that truffles only grow in partnership with certain conifers. To my knowledge, truffles do **not** grow with conifers, but I was trying to be clever and set a trap. He replied that he had heard they grew under oak, but believes this was not the case this time, because the tree was “kind of bushy”. Next time we spoke, he told me he had gone back to bring a branch, which a friend identified as our common beaked hazelnut (*Corylus cornuta*; Figure 2). Bob passed his test: we have no oak, but truffles are known to grow also with hazelnut, at least

the European filbert.

Bob seemed to be quite familiar with the various aromas and tastes of truffles from different regions. Because his find was relatively small (33 mm in the long axis), he said he only tasted a shaving because he wanted to save it for investigation and identification, but by his assessment the taste and aroma of this truffle was on par with the finest Italian and French truffles, way above anything found in the rest of North America, Asia, Africa or Europe outside the Mediterranean region. His knowledge of truffle flavour sounded very authentic, at least to me, whose only truffle experience was with one \$25.00 black nubbin bought at a market in San Francisco back in the days when I had to tolerate cash flow that could permit such extravagance (Figure 1). To this day it remains the most intriguing and complex thing I have tasted, even if I did ruin some of it by cooking.

First, he wanted to know if there were any truffles in Newfoundland. I told him about our few true and false truffles,¹ the *Alpova* story,² the finding of unidentified *Tuber* DNA in environmental samples,³ and *Hydnотrya*.⁴ Then he wanted to know whether I could identify his truffle. I told him that this was way beyond my experience or abilities, and would require “DNA testing, just like on CSI”. I suggested a choice of six well-known truffle experts from Canada and the US, very competent people, who could determine whether it was a truffle, rank it with its closest relatives, identify it, or tell us whether it was a hitherto unknown species. Bob insisted we avoid famous labs: “obvious targets, too easy to find ... probably monitored.” Instead, he requested a list of reasonably competent and well-trained people with some truffle knowledge, but no fame. I was not to contact them. Unfamiliar with *Tuber* workers, it took me a while to find suitable candidates, but eventually I was able to present Bob with a list of six such labs. Because he did not know mycologists and mycologists did not know him, he asked me to mail a letter of introduction and recommendation to a fictitious name at the main post office in St John’s.

I agreed to help Bob, in exchange for two things: 1) a photo of the specimen and 2) a copy of the simplest phylogenetic tree, if he gets it sequenced, with the rights to publish both as preliminary information. (Because Bob would not identify the lab where the work was done, I also insisted that he assure me he has their permission for me to publish this tree.) I had not heard from Bob since Christmas, and had forgotten about it, when in early March, this year, I got a large

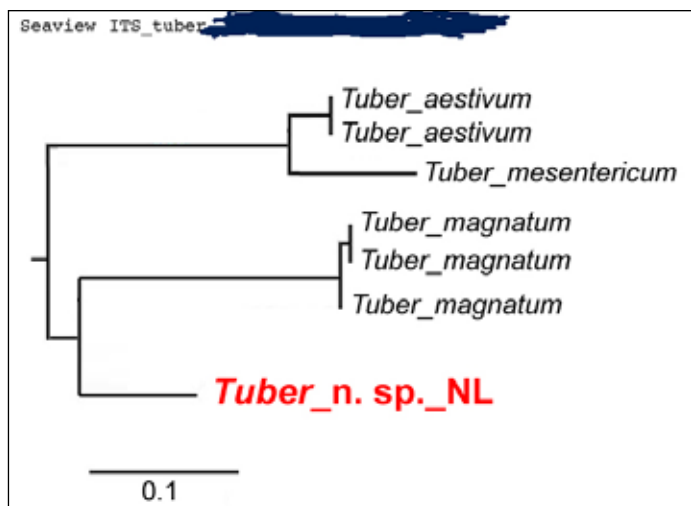


Figure 3. Scan of the phylogenetic tree Bob sent me, sent to him by the unidentified lab he dealt with, identifying details nicely blacked out by Bob. This snippet shows the /aestivum clade of *Tuber*, the clade where the most prized truffle, the Italian white, *T. magnatum*, belongs. Bob's NL specimen (red print) looks like an unknown species, new to science, sister species to the prized Italian white.

envelope with no return address, no letter or message, but with two photocopies that spoke eloquently. One was Bob's promised cell phone photo of his find, scanned and printed. This is now rescanned and appears on the cover and the title banner. The other photocopy showed a rudimentary phylogeny of the /aestivum clade, the clade where the Italian white truffle *Tuber magnatum* resides (Figure 3). The message is clear: Bob's specimen has been sequenced, and an ITS tree suggests it is a new species. More noteworthy is that despite its somewhat dark and thick skin, it is, just as Bob suspected, a sister species to *Tuber magnatum*, the world's most sought-after truffle. Very preliminary data, which needs to be confirmed. No doubt it will eventually find its way to scientific publication, but I suspect that may take years, given Bob's concerns for security and secrecy. Until then, you read it here first.

There you have it—a rather long story, really only supported by two images. Part of the reason for the long story is that I want to make it absolutely clear that I have no way of reaching, tracing or contacting Bob. Thus, if some bad guy reads this and wants to torture or kill me for that information, save yourself the trouble, chum, because I do not have it and cannot get it. If you still think beating it out of me might be worth a try, please be advised that 1) at 78, I have not too much life to lose, so that in a confrontation I can afford to be more reckless than callow youth, giving me decided advantage, and 2) I have become forgetful, so that under pressure to extricate myself

from sudden adversarial bellicosity I may get flustered and forget some of the finer points of the Marquess of Queensberry Rules, inadvertently gaining unfair advantage and might inflict painful injury, not to mention grievous loss of face. Something for any lily-livered Mafia pansy to consider before setting out. Just saying...

Hollow braggadocio aside, if confirmed, this is potentially huge news for truffles and for NL. You may be interested in additional late-breaking news on p. 18.

References

1. Voitek A: The thousand dollar question. *OMPHALINA* 2(8):4–6. 2011.
2. Hayward J, Horton T, Lebeuf R, Voitek A: *Alpova cinnamomeus*. *OMPHALINA* 5(8):17–20. 2015.
3. Tedersoo L: Global diversity and biogeography of fungi. *OMPHALINA* 6(1):17–18. 2016.
4. Mann H: *Hydnortya cubispora*—the Pasadena moose truffle. *OMPHALINA* 6(3):16–17. 2016.



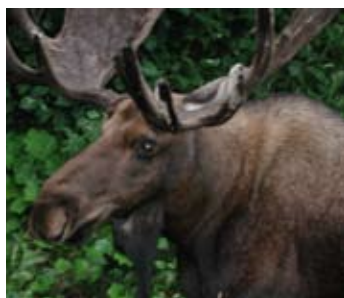
Figure 4. “A good light weight”: 1877 *Vanity Fair* caricature of John Douglas, 9th Marquess of Queensberry. His Lordship, aficionado of the manly sport of boxing, set down the rules governing sportsmanlike behaviour in the ring. Western civilized tradition expects similar gentlemanly conduct toward an opponent in any altercation, inside or outside the ring, while trying to pummel him to a pulp. Illustration from the web, in the public domain.

MYCOPHAGY

—WHO'S BEEN EATING MY MUSHROOMS?

Bill Bryden

WE eat mushrooms. On these pages we have also learned that slugs eat mushrooms (as if we needed to learn that by reading!), and recently read about other fungi eating fungi (*OMPHALINA* vol. 9, nr 1). Here is a quick look at other rivals I have seen while doing my share to keep our mosquito population healthy.



Moose Many a moose hunter will be shocked to learn why moose are out on those stark cut-overs in the fall. As a myco-oblivious moose hunter, it always mystified me why moose would be 100s

of meters out in the middle of a fairly fresh cut-

over virtually devoid of any living plant life. After becoming a mushroom hunter I quickly learned why. Moose *love* honey mushrooms. And a single hectare of 2–6 year old black spruce cut-over stumps can produce over 1,000 lb of *Armillaria* sp. in a week. The carbs and protein gained must be substantial. Another moose fave is the birch polypore as discussed in an earlier article in (*OMPHALINA* vol. 4, nr 4).

Collecting the big cat (*Catathelasma ventricosum*) I quickly found that I had some serious competition. If there was ever a mushroom of “moose-worthy size” this is it—I have collected up to 2 kilo sized specimens. Like the birch polypore, moose dramatically target these mushrooms and I am convinced they make a special effort to visit consistently producing patches within their home range.



Bear Much to my eventual unnerving, during the 2017 mushroom season, I picked mushrooms in competition with, and literally alongside, an adult male black bear

(bigger than the cub in the photo). As the place was littered with king boletes I can only assume that this was the mushroom being targeted by the bear as it grazed some 30m away along the otherwise barren white spruce silviculture needle duff.



Hare Recently I found what must have been a nearly 2 pound *Catathelasma ventricosum* completely hollowed out by a varying hare. Talk about eating an elephant one

bite at a time! Having dried this mushroom I would suggest that it ranks as one of our most “greasy” mushrooms, which, no doubt, plays a role in its attraction for both moose and hares. Watching a hare mow down winter chanterelle (*Craterellus tubaeformis*) “babies” like a machine took the cake, and I almost felt guilty while filling my bags with the mature yellow-legged rubbery mushrooms. How does a mushroom even stand a chance?



Squirrel It seems squirrels can muster super strength after ingesting mushrooms. Last season I noticed that one had lifted a king bolete weighing in excess of 400 grams 8 feet into a white spruce! Amanitas in the nearby branches may have been the aides de camp of such a berserker squirrel.

Various *Russula* species are also favourites for squirrels to stow in trees.

Smaller rodents of every imaginable beady-eyed species eat both the cap skins and tissue of an array of *Suillus* and bolete spp. They will also target any number of other high-value edible, gleefully gobbling up every gram.



Birds One day I threw down a *Russula* sp. near some watchful gray jays, and saw one swoop down and gobble up the large broken-off stipe. Ahaa, mistook it for bread, I thought. Boy, was I wrong!

A study suggests that they, too, eat mushrooms—up to 30% of their diet.



Birds & invertebrates While collect king boletes in some of my commercial sized patches, I noticed that some boletes had exploded, and large piles of the stipe had been reduced to small chips.

After some patient waiting

I found out why: a sparrow was busy burrowing its way into one to extract the larva inside. Other kings had their wormy caps excavated by obvious beak marks and bird claw marks of various shapes and sizes, suggesting several different species of feathered culprits were involved. Any bolete lover knows that the larvae of the flies that lay their eggs to hatch there are some of our worst competitors, so more power to you, sparrow.



Bees reputedly drink the sticky fluid exuded as guttation from the hymenium, and eat mycelium from rotted wood. Recently “Innovate NL” approved a government and industry funded study, using 60 motion detection cameras

to catch insects, primarily bees, and larger animals red-handed using mushrooms and their products as a food and pharmaceutical source, so we may hear more about this.

Rove beetles hunt flies off of rotted mushrooms. In fact,

Every manner of furred and feathered creature in the woods dines on mushrooms. No wonder they vanish so quickly. It seems I was slow to learn what every other critter in the woods knew—mushrooms are great!

ORANGE SPRING CUP

CALOSCYPHA FULGENS

Henry Mann

Spring of 2017 was cold and rather dry in Pasadena; not much was happening for a mushroom enthusiast. Even morels were as scarce as hen's teeth. So as I wandered through a young balsam fir woods one day in late May, a splash of bright orange was a welcome sight in the green moss carpets. A somewhat uncommon spring species in these parts, *Caloscypha fulgens* was new to me, probably because I never before roamed its habitat this time of year. *Caloscypha fulgens* is an Ascomycete, or cup fungus (Order Pezizales), also sometimes called "golden cup", or "dazzling cup", in addition to the more common name "spring orange peel fungus". *Caloscypha* means "beautiful cup", and the species name *fulgens* means "brightly coloured". As its names suggest, it forms as an urn-shaped cup, yellowish orange to olive-green on the outside, but bright orange on the inner surface and then opens irregularly to exhibit its orange surface. Age or injury may stain it green inside or out.

It varies in size up to 3 or 4 cm across. Well, it looked like 2017 was a poor year for morels, but a banner year for *C. fulgens*. By early June the woods were full of orange cups, something I had never seen before. It was almost impossible to walk under conifers without stepping on them. Not edible, like the prized morels, but still, somebody appreciated them, because there was seldom one that had not been chewed around the rim or had holes taken out of it.

This species illustrates well one of the curious and sometimes exasperating features of fungal taxonomy, especially for those of us with only a rudimentary understanding of the group. The species may exist as both a perfect (sexual or teleomorph) and an imperfect (asexual or anamorph) form. The imperfect form was first recognized as a pathogen infecting seeds of Sitka spruce and was given the scientific name *Geniculodendron pyriforme*. It reproduces and



Photo: Aare Voitek



Photo: Andrus Voitek



Photo: Andrus Voitek



Photo: Maria Voitek

spreads by asexual spores (spores from one parent only, containing that parent's genes) known as conidia. More recently it was determined that *C. fulgens* is the perfect form of the same species.¹ It produces the orange cups and sexually produced spores from two parents (ascospores). Hence, as with many other fungal species, the literature contains two “valid” scientific names for what is now known as different forms of the same organism, an unusual feature in biology due to the complexity of some fungal life cycles and our inadequate ability to recognize both forms as the same species. In 2011 the International Botanical Congress decreed that as of 2013 the use of separate names for the anamorph and the teleomorph would be officially terminated and fungi would be identified by their teleomorph name when such was known, bringing the fungal system in sync with the rest of biological practice. Still for the uninitiated naturalist, wading through fungal taxonomic literature can be a daunting experience!

Despite taxonomic contrivances and complications,

the spring orange peel fungus is still a pretty and an appreciated sight in the otherwise drab spring woods! To compare it to other orange cups in our woods, look up pp 20–21 *OMPHALINA* vol. 4, nr 11 (2011),² on the FNL webpage <nrmushrooms.ca>. If you do, please note that the author mixed up the cells in his tabular key: this is the species that stains blue-green, not *Aleuria aurantia*. Also, this species seems to grow on balsam fir duff at least as often, if not more, than spruce duff.

By the way, if you wonder whether this conidial form is just a plan to confuse the naturalist, then no. It is a clever strategy to ensure survival of the species, by providing an alternate route for preserving and propagating the genetic material, should conditions not be favourable for the primary method.

References

1. Paden J, Sutherland J, Woods T: *Caloscypha fulgens* (Ascomycetidae, Pezizales): the perfect state of the conifer seed pathogen *Geniculodendron pyriforme* (Deuteromycotina, Hyphomycetes). Can. J. Bot. 56: 2375–2379. 1978.
2. Voitek A: Three orange cups. *OMPHALINA* 4(11):20–21. 2011.



Photo: Joe Brazil

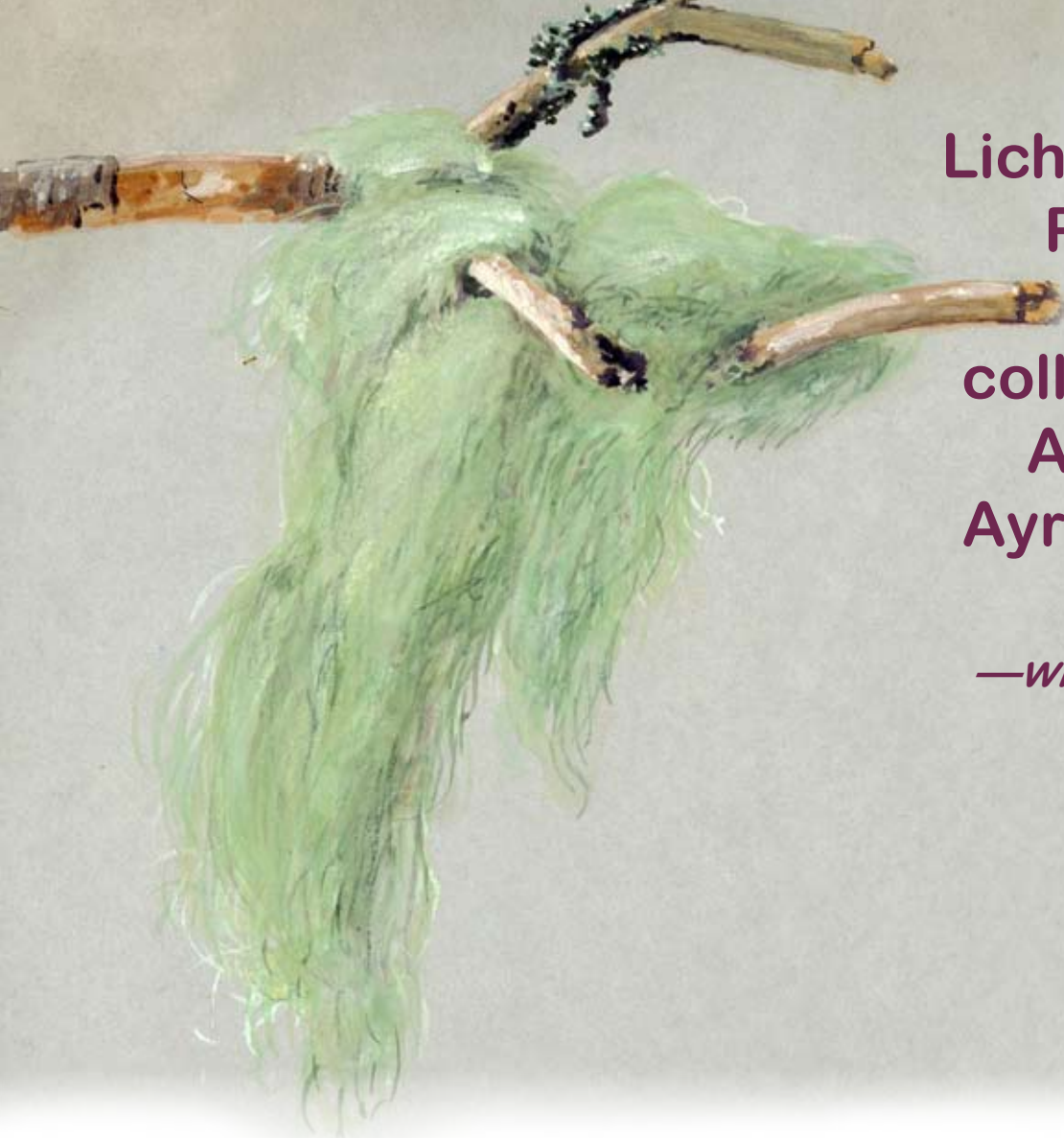
The Bishop's Sketchbook



To have a bit of outdoor greenery in the winter, make a mossarium in a bowl. Inside

humidity is high, needing very little watering. If you are lucky, you may be rewarded with a bit of indoor orangery among the greenery. Note 12 times increase in cap diameter in six days!





Lichens from the Pruitt-Murray

collection at the Agnes Marion Ayre Herbarium

—what did we learn?

Yolanda Wiersma
Tegan Padgett
Rachel Wigle

Fans of public television may be familiar with the “Antiques Roadshow”: people bring old dusty items from their attics and basements to an antiques appraiser in the hopes that the piece of junk that nan left them might be worth something. Most of us would probably feel curious about old items in storage and wonder whether there was something exciting among all the odds and ends; whether financially profitable, or simply interesting and revealing in some way.

Archival material, including documents and older museum specimens, can incite the same levels of curiosity and anticipation in researchers. In 2017 Julissa Roncal, curator of the Agnes Marion Ayre Herbarium, presented our lab group with three boxes of unidentified lichen specimens. We set about determining what was in the collection, and have documented our findings in a series of articles in *Omphalina* (VIII:2, VIII:4, VIII:5 & XI: 1). Like

someone confronting the contents of the family attic, we were curious as to what we might find. This article summarizes some of our findings.

In terms of specimens, there were no earth-shattering discoveries of new species to Labrador. We identified 12 species (Table 1). All but three of these were detected on the recent Foray in Happy Valley-Goose Bay. None is particularly rare or limited in distribution. The three species not collected at the Happy Valley-Goose Bay foray have been reported from Labrador before, according to data from the Consortium of North American Lichen Herbaria <<http://lichenportal.org>>. There were a very large number of specimens of *Stereocaulon paschale*; we are not sure why Pruitt and Murray collected so many specimens of this species.

The lack of identification (it quickly became clear that the collectors were not lichenologists) and the numerous replicates of the same species

made us curious to learn who these collectors were. Some online sleuthing led us to discover a bit about Murray and Pruitt, and we told their story in these pages (VIII:1). Working through the collection, we noted that the majority of the specimens were collected from a single locality. The packets all label this as “in the vicinity of Twin Falls Airport, Labrador”. The dates of the expedition pre-date GPS, so we do not know the exact co-ordinates that Murray and Pruitt surveyed, but some hunting on the Natural Resources Canada Place Names database has confirmed that the collection location is approximately 40 km East of Churchill Falls (Figure 1). Twin Falls itself is described as an unincorporated settlement located at 53°30'0" N, 64°31'57" W. We assume that Murray and Pruitt ventured out from the settlement into the nearby woods, which seem to be a fairly typical patch of northern boreal forest (Figure 1).

So, if we didn't learn anything scientifically earth-shattering from this exercise, what did we find? Well, there were a number of valuable lessons from this exercise. For one, we now have positively identified a sizeable chunk of lichen specimens for the herbarium. These will add to baseline data, documenting the species in Labrador half a century ago. Other things gained were more intangible. The two student co-authors had the opportunity to develop their lichen identification skills. Some of the specimens were particularly challenging to key out, given their age (age of lichen, not students). However, we also learned that in some cases, such as when trying to discriminate *Cladonia borealis* from *C. coccifera*, the age of the specimens can be advantageous (see VIII:5 for details). Finally, through taking the lead on some of the articles, the two students (TP and RW) had the opportunity to hone their writing craft and to gain experience with working with an editor.

As the project lead, I am thankful to Andrus for offering us the space for this exercise and for providing such a positive editorial role for new writers (and old ones!). We hope you have enjoyed this series. We are not quite done identifying everything, but we've decided to wrap up the formal series of articles. Rest

assured that if we do make a remarkable new discovery somewhere in the dusty packets yet unexamined, we will report them in these pages. Thanks also to Troy McMullin for sharing the list of lichens from the Labrador foray and for help with identification of some of the trickier specimens.

Table 1. List of lichen specimens identified in the Murray-Pruitt Collection. Asterisk (*) indicates species not collected on the 2016 Foray in Happy Valley-Goose Bay. Second column also shows the volume and issue of *OMPAHALINA* in which we describe the species, and notes of interest. All species have been reported from Labrador according to the Consortium of North American Lichen Herbaria.

Scientific Name	Common name (vol.) & notes
<i>Icmadophila ericetorum</i> (L.) Zahlbr	Fairy puke or Candy lichen (VIII: 2)
<i>Stereocaulon paschale</i> (L.) Hoffm.	Easter foam lichen (VIII: 2) Secondary compounds have been studied for their antibacterial and anticancer properties.
<i>Vulpicida pinastri</i> (Scop.) J.-E. Mattsson & M. J. Lai	Powdered sunshine lichen (VIII: 2) The toxins in this lichen have been used to kill foxes by stuffing bait carcasses with it.
<i>Nephroma arcticum</i> (L.) Torss.	Kidney lichen (VIII: 4)
<i>Umbilicaria hyperborea</i> var. <i>hyperborea</i> (Ach.) Hoffm.	Blistered rock tripe (VIII: 4)
<i>Tuckermannopsis americana</i> (Sprengel) Hale	Fringed wrinkle lichen (VIII: 4)
<i>Cladonia borealis</i> S. Stenroos*	Boreal pixie-cup lichen (VIII: 5)
<i>Cladonia coccifera</i> (L.) Willd. *	Red pixie-cup lichen (VIII: 5) Distinguished from <i>C. borealis</i> by zerorin crystals that had accumulated due to age of specimen.
<i>Cladonia deformis</i> (L.) Hoffm.	Lesser sulphur-cup; Deformed cup lichen (VIII: 5)
<i>Cladonia sulphurina</i> (Michx.) Fr.	Lesser sulphur-cup; Sulphur-cup lichen (VIII: 5) Can be distinguished from <i>Cl. sulphurina</i> ; it fluoresces under UV light, <i>sulphurina</i> does not.
<i>Cetraria islandica</i> (L.) Ach.*	True Iceland lichen (IX: 1) Unclear where and when this was collected; presumed to be from the Murray-Pruitt expedition.
<i>Flavocetraria nivalis</i> (syn. <i>Cetraria nivalis</i>) (L.) Karnefelt & Thell	Crinkled snow lichen (IX: 1) Unclear where and when this was collected; presumed to be from the Murray-Pruitt expedition.



Figure 1. 1969 map of Labrador, insert: Twin Falls. Pruitt and Murray collected in 1967. Presumably they flew to Goose Bay, and from there to Twin Falls, where they did their collecting. At the time Twin Falls was the main community, from which Churchill Falls was constructed. Initial power came from a generating station on Twin Falls River (see insert), and the community had its own air strip. Once built, Churchill Falls got its own airport (and power,

of course), and Twin Falls was phased out. Note the dashed line indicating the expected limit of what is now the Smallwood Reservoir. There were only local roads. These days you can drive there on The Trans-Labrador Highway. If you have not seen Churchill Falls, you should do so—it is up there with the pyramids as an example of human engineering.

The railroad to Schefferville, QC, is shown, but no highway yet. Québec route 389 from Baie Comeau came

after the building of the mining town Fermont, which connected to what eventually became the Trans-Labrador Highway. Many people believe that the railway was built to carry iron ore south. Actually, its prime purpose was to carry Finnish mycologists north at the same time of the Pruitt-Murray trip. As a result, much of the mycota of the region is documented in various publications by these workers, who include Esteri Ohenoja, member of our foray faculty for several years.

In memoriam GARY LINCOFF

I'm sad to report the passing of Gary Lincoff, a driving force in the early years of NAMA, a great contributor to amateurs, and a constant educator to many, many beginners. He was the recipient in 1986 of the NAMA Award for Contributions to Amateur Mycology, an award that was named in his honor two years ago: The Gary Lincoff Award for Contributions to Amateur Mycology. Gary was the second president of NAMA, 1979-1988, and awards committee chair for many years.

His book, *The Audubon Society Field Guide to North American Mushrooms*, published in 1981, was a watershed moment for people of all interests to the field of mycology. He organized NAMA's "exotic forays" to far places including Siberia, where he learned first hand about native uses of *Amanita muscaria*.

Gary led forays in New York every week of the year, no matter the weather. He was a constant participant in events across the nation including this year's 18th Annual Gary Lincoff Foray, sponsored by the Western Pennsylvania Mushroom Club. Gary was often the Principal Mycologist at the Mid-Atlantic Mushroom Foray. At the 2017 Telluride Mushroom Festival, participants in the annual parade dressed as "Gary Lincoff", incorporating his standard vest and hat into a costume.

Gary Lincoff was the author or editor of numerous books and articles on mushrooms, including his recent publication, *The Complete Mushroom Hunter, An Illustrated Guide to Finding, Harvesting, and Enjoying Wild Mushrooms*. Gary's



Photo: Richard Jacob

insights about edible and poisonous mushrooms, picking urban mushrooms, mushroom recipes, and his experiences with wild mushrooms in various cultures around the world make it a delightful read. He taught courses on mushroom identification at the New York Botanical Garden. A featured "myco-visionary" in the award-winning documentary "Know Your Mushrooms", Gary led mushroom study trips and forays around the world. Gary had his own website <<http://garylinkoff.com>> that includes much help for beginners, info on toxicity, and scientific articles on DNA classification of mushrooms.

Gary Lincoff's energy and enthusiasm will be greatly missed by mushroomers all over the world.

David Rust

See also obituary in the New York Times: <<https://www.nytimes.com/2018/03/23/obituaries/gary-lincoff-75-dies-spread-the-joy-of-mushrooms-far-and-wide.html>>

GUMTRUFFLE!



Andrus Voitek & Henry Mann

— Look what I found. What do you think this is?

— Wow! Looks like a truffle! False or real? Where was it? What was the tree?

— You won't believe it: in my tomato patch. No tree, although my yard is criss-crossed by birch roots. I almost threw it away, until I noticed that this was not an ordinary soil clump. Hard to cut, with a thick, solid cortex around it.

— This is exciting. I'm not aware of any truffles like this around here. Truth be told, I know next to nothing about truffles. The only one I know is *Alpova cinnamomea*, which you have collected, and this ain't it. Looks a bit young yet, I don't see hymenial tissue, so it may not have any spores, but I'll take a look with the microscope tomorrow.

— Will you be able to identify it?

— Oh, no. As I mentioned, I know nothing about truffles, have not met them here. But if there are some microscopic clues, I may be able to interest somebody with more

expertise to identify it.

After warming for a day inside, it seemed a little rubbery., and could be compressed somewhat without apparent damage, slowly expanding to its original shape after release of pressure. The first slide was from the dry, white, powdery area beneath the skin. No hyphae or recognizable hymenial tissues were seen, and the material seemed to consist of a compact but unconnected agglomeration of somewhat irregular, spherical, hyaline (clear) particles, 5–12 μm in diameter. Maybe sphaerocytes and this is a hypogeous species of the Russulaceae?

Next attempt was to look at the grayer medulla or centre. This was diagnostic. Not by what was seen, but by how a small piece could be shaved for a slide. Or, rather, could not. The medulla was semi-soft and tacky, and stuck to the scalpel blade, which pulled away with strings attached, like taffy. Well, not so much taffy, as chewing gum. A proper slice could not be cut, and the material could not be

compressed to become sufficiently thin for examination. Instead, it behaved just like old, semi-hardened chewing gum.

To quote Sir Leif Ryvarden, what else could it be? The famous gumtruffle, fit for an April 1 issue.

Why spoil an April 1st joke by revealing it in the same issue it was made? Dave Malloch taught me something about jokes.

Scientific publications aimed at non-scientists attract a readership hungry to learn. These readers put their trust in the publishing team to educate them, and feel understandably betrayed if their chosen teachers use their lack of knowledge to make fun of them. It is not that they do not have a sense of humour; they do, but like everybody else, they want to be in on the joke, not its butt. Therefore, if you create a spoof, tell your readers, so that everybody can enjoy the joke, not just the learned in-crowd. If your readers find out a month later that they were fooled while others laughed, they will feel hurt, and you will lose the very people you wish to reach.

Ed.

The New Newfoundland and Labrador Chanterelle T-shirt is Now Available



This shirt has been produced by Foray NL to commemorate a new mushroom identified as a result of work based on NL specimens.

The shirt features a reproduction of a watercolour by Glynn Bishop illustrating the newly-named Newfoundland and Labrador chanterelle (*Cantharellus enelensis*) See the front cover and article in **OMPHALINA** Vol. VIII, No. 4, June 2017.

The image is printed on a forest green, Gildan, 100% cotton shirt. The shirts are available in a full range of sizes from S to XXL.

Cost: \$25.00, plus shipping.

If you would like to order a shirt, please contact Glynn Bishop at [fozmos“at”gmail.com](mailto:fozmos@atgmail.com); write to 1856 Topsail Rd. Paradise, NL, A1L 1Y7; or phone (709) 781-1382 (evenings), or (709) 687-7604 (daytime).

THE MAIL BAG

OR WHY THE PASSENGER PIGEONS ASSIGNED TO SERVE THE
LAVISH CORPORATE AND EDITORIAL OFFICES OF OMPHALINA GET HERNIAS

Thanks for the recent OMPHALINA! I am pleased to see that *Suillus clintonianus* is duly recognized! And that you have *S. grevillei*, too. They do have subtle differences other than colour alone, even in taste. In Yakutsk, Siberia, both are very common in the extensive regional larch forests. In the market place the local people sell them separately, pricing *S. clintonianus* higher.

Teuvo Ahti

Many thanks for the OMPHALINA! The *Suillus* article is amazing.

Oluna and Adolf Ceska

Had a brief look at this issue and will be spending much more time with it. What a wonderful guide to *Suillus* you have produced. Congratulations and many thanks.

Gene and Karen Herzberg

This is a terrific issue (how does that differentiate it from all the other issues?)

Susan Goldhor

May I let it ever so subtly drop that it had not occurred to me to spell my name as you did on p 23, but I might try it in the future.

Neo Albidipes

Dear Neo,

What's new? Thank you for the correction, but with all the expert help the author had, there is no way he should take the fall for this.

Ed.

Your descriptions of *Suillus subalutaceus* said it had no ring. According to Smith and Thiers it has a small annulus, which we call a "petit bourrelet" in Quebec.

Renée Lebeuf

Dear Renée,

You are correct that *S. alutaceus* has a ring, at least in the early stages. All the ones the author saw were old, dont le petit bourrelet avait disparu, so he did not know. Those experts shoulda never let that through! I've fired off a stiff letter to each of their respective university deans.

Ed.

OUR PARTNER ORGANIZATIONS

People of Newfoundland and Labrador:

Department of tourism, culture, Industry & Innovation

Provincial Parks Division

Department of fisheries & land Resources

Wildlife Division

Center for forest Science and Innovation



People of Canada, through

Parks Canada

Gros Morne National Park



Parks
Canada

Parcs
Canada

Canada

The Gros Morne Co-operating Association



Memorial University of Newfoundland

St. John's Campus

Grenfell Campus



Tuckamore lodge





FORAY
NEWFOUNDLAND
AND LABRADOR

2018
The second decade

AVALON PENINSULA

Burry Heights Camp and
Retreat Centre

Salmonier Line, Sept 28-30, 2018

Guest faculty (tentative)

Peter Kennedy
Renée Lebeuf
Sunny Liao
Nhu Nguyen
Roger Smith
Greg Thorn
Rytas Vilgalys

*Get to know our MUSHROOMS & LICHENS!
See our website April/May, 2018, for
Registration Forms & Information:*

[<www.nlmushrooms.ca>](http://www.nlmushrooms.ca)