OMPHALINA

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Newsletter of FORAY NEWFOUNDLAND AND LABRADOR

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Oct. 26, 2014

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.

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seened AT *gmail* DOT *com*,

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COVER

Pluteus sp. on rotten birch stump, Humber Village, path to Mt. Ignoble, Aug. 21, 2009.

The lead article reviews our species of *Pluteus* (pink sporeprint, free gills, no volva, grows on wood), including three new species. Of six genetic species clades defined to date, this one remains unidentified and undescribed. Should you find this, or others that do not seem to fit these descriptions, please photograph, collect and air dry them. Then notify the editor, and perhaps we can get them identified. More collections of this species are required to determine its identity with accuracy.

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CONTENT

Message from the Editor

The main feature for this issue is a review of our *Pluteus* species by Fredo Justo. As has been the case with many of our relatively common species (e.g. *Gomphidius glutinosus*, *Gymnopus dryophilus*, *Laccaria laccata*, *Lactarius deliciosus*, *Lactarius deterrimus*, *Morchella elata*, etc.) *Pluteus cervinus* just did not seem to fit all mushrooms given that name as the closest match, and seemed to encompass a complex of closely similar species. Like the others, there was a good reason: indeed the name hid a species complex, and the real *P. cervinus* was not even among them!

With the aid of phylogenetic analysis, bit by bit we are beginning to unravel the species really growing in our province—a much more meaningful inventory than one produced by merely matching with the closest commonly described species from elsewhere.

The ability to do this is a tribute to our Annual Foray. Without people collecting, identifying, cataloguing and archiving our mushrooms, there would be nothing to study. And without a reliable fungarium, no reputable scientist would have the time or interest to study our material. The responsibility for any success we may have rests squarely on the shoulders of you who participated in our forays, as well as the investigators who performed the studies. Take a bow!

The succession of similar articles we have been able to publish in Omphalina is a clear demonstration of the power of a dedicated group of people, like the Foray. This should continue outside the Foray as well. With members from all over the province, we can cover much more ground than any person could alone. At an average foray 55 people spend about 5 hours in the woods, collecting mushrooms, a total of 275 man-hours. Our membership list has 52 people with an address in Newfoundland and Labrador. If only half of them went out in the woods for two hours, once every other week in the months of September and October, together we would log 260 man-hours, about as many as are logged on a foray. A lot can be found during 260 hours in the woods!

The purpose of the lead article is to describe for you the known species of *Pluteus* we have in our woods. The purpose of the cover image is to show you an unknown species of *Pluteus* we have in our woods. And to ask you to keep your eyes open for similar species. One collection is not enough to describe a new species. If we can get several collections, we may have enough to identify the species with certainty, and describe it, if it is unknown, thus adding not only to our own knowledge, but to that of mycology in general.

Go out there and log in your hours, eyes peeled, knowing it is a great service to mankind you are doing! The first one to discover a new species gets to name it Pluteus maximus.

Meanwhile, we are looking into a government grant under the Big Brother Program to equip the membership with GPS transmitter anklets, so that we can ensure that everybody logs in the requisite minimal hours in the woods. A future benefit of FNL membership for the new Board to consider is a chip implanted into the tissues to prevent tripping by snagging the anklet on twigs and branches.

Next month you shall get the Foray Report. To whet your appetite, much of this issue contains short descriptions of some notable finds, including books, people, lichens and mushrooms, from that foray.

Happy mushrooming!

andrus

PS Think you missed the September issue? You did. That is in keeping with the promise, made two years ago, not to put out 12 issues a year again. You deserve a break.

a

FNL MATTERS…

Omphalina on MycoWeb

Veterans of our forays will remember Mike Wood and his wife, Jane Wardzinska, from our faculty in 2006. Others may be aware of MykoWeb <http://www.mykoweb.com/>, one of the websites that Mike keeps. While the other sites he keeps or is associated with, have a primary focus on the mycota of California or the Pacific coast, MykoWeb is a well known reference resource for a lot of general mycological information. Mike thought that despite being limited to the mycota of Newfoundland and Labrador, Omphalina contains material of general mycological interest, and suggested it be made available on his MykoWeb site to people not aware of our website. We are flattered by Mike's interest and because FNL espouses the widest dissemination of mycological knowledge, we gladly espouse wider availability of our newsletter. Thus, for you mycosurfers, <http://www.mykoweb.com/> is now another source where you can find our newsletter.

New Board of Directors for FORAY NEWFOUNDLAND & LABRADOR

According to FNL by-laws, the general membership elects Directors, after which the Directors determine the distribution of offices and duties among themselves. Ours is a managing Board (i.e. we have no separate Management), so that each Director has hands-on responsibility for some of the practical aspects of making the foray happen. The Directors also have the right to invite additional persons to serve in additional capacities, but these persons remain Provisional or Temporary members of the Board (invited guests, without a vote) until voted in by the next general meeting. The Board elected at the last Annual Meeting (during Foray 2014) has met and distributed its duties as follows:

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Tina Leonard	Secretary & Social
Geoff Thurlow	Treasurer
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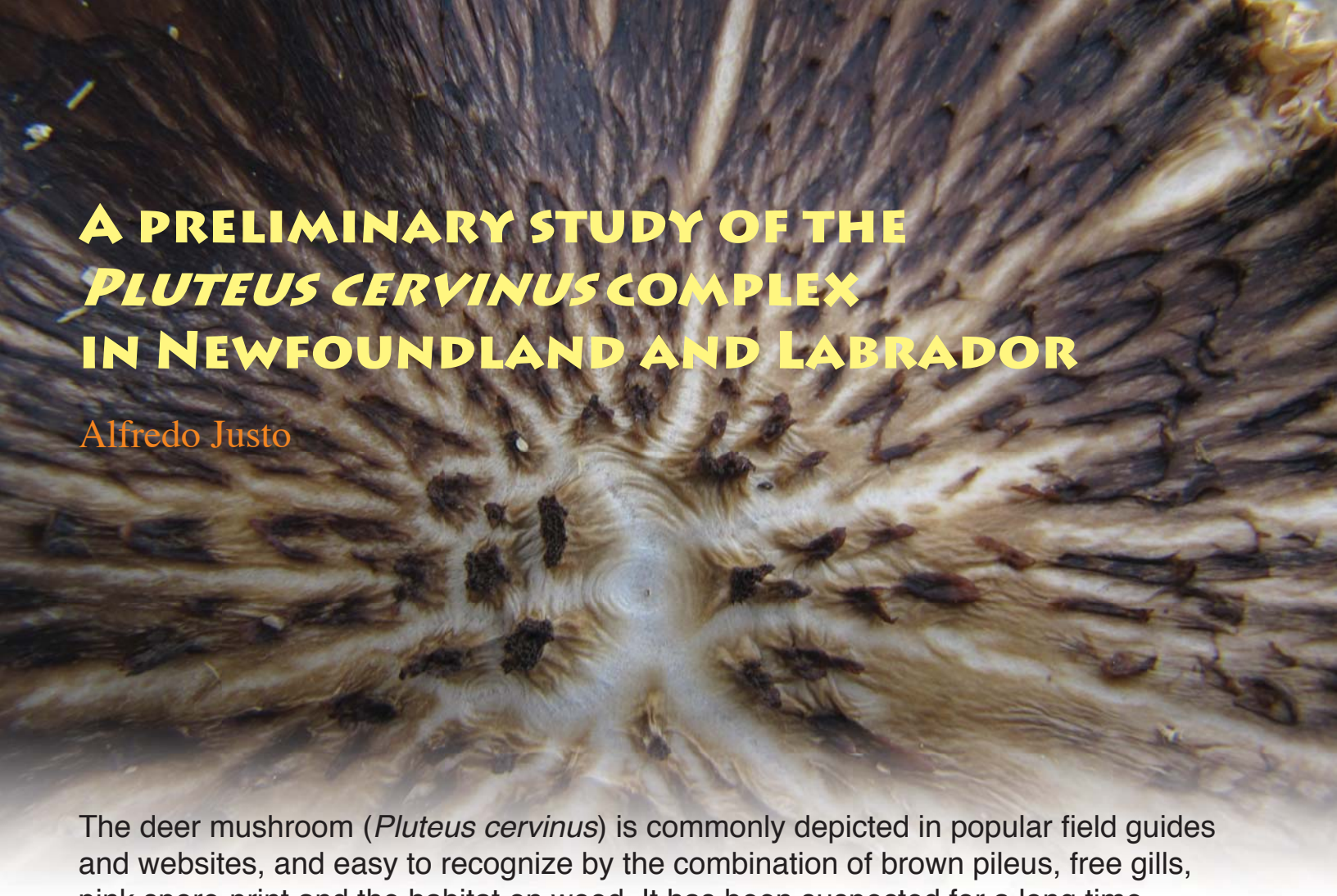


A preliminary study of the *Pluteus cervinus* complex in Newfoundland and Labrador

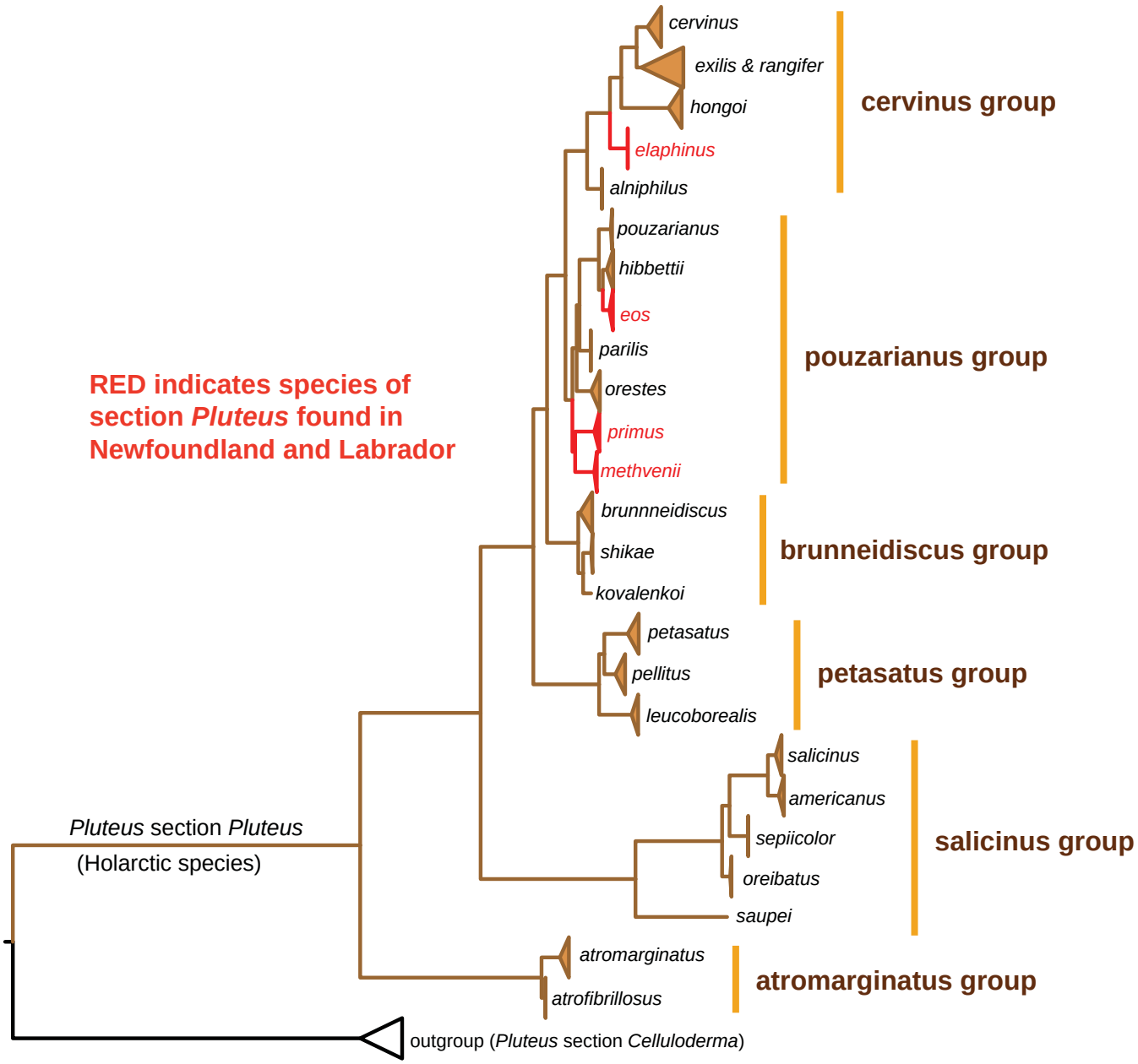
Alfredo Justo

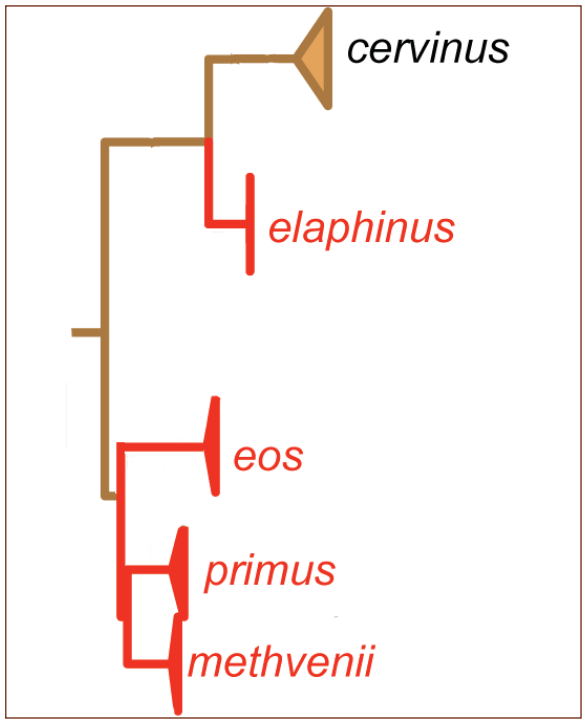
The deer mushroom (*Pluteus cervinus*) is commonly depicted in popular field guides and websites, and easy to recognize by the combination of brown pileus, free gills, pink spore-print and the habitat on wood. It has been suspected for a long time that the name “Pluteus cervinus” hides several species, but the questions about how many, as well as what are their morphological characteristics, geographic distributions, and correct names, have been very difficult to answer until the arrival of molecular (genetic) data.

Part of a broad, collaborative revision on the *Pluteus cervinus* complex in the Holarctic region, boreal and temperate areas of North American and Eurasia,[1] included 12 collections of the *Pluteus* species from the Newfoundland and Labrador Fungarium and those from the personal collection of Andrus Voitk.

Four species are confirmed to occur in Newfoundland and Labrador, including three new to science. All are discussed below. The true *Pluteus cervinus* has not been found in the area, and based on the results of the original study,1 it is unlikely to occur here. The four species, as befits members of a complex, are macroscopically quite similar. Phylogeny diagrams to show their evolutionary relationship, will be followed by a photo and a brief description for each species. An overview of their morphological characteristics is given in Table 1, concentrating on the macroscopic characters, although definitive identification will often require microscopic examination, as outlined in the descriptions.

Although the material studied was collected over ten years, 12 collections are not a great number, and the possibility of additional species cannot be excluded.

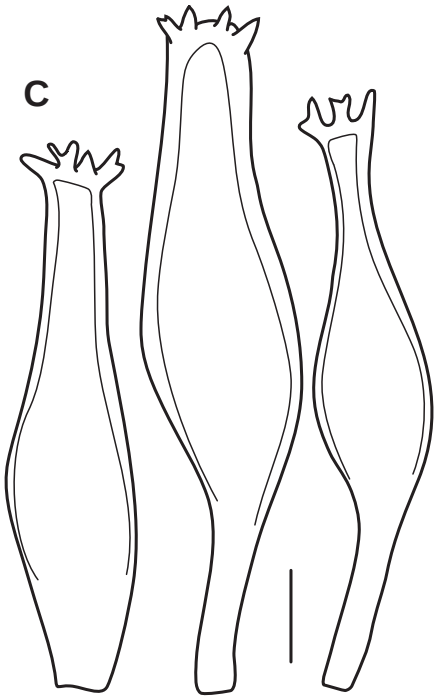




Phylogenetic relationships of the holarctic species of *Pluteus* section *Pluteus*, highlighting the species present in Newfoundland and Labrador (in red) and their relation with *Pluteus cervinus* sensu stricto.

Above: the NL species among all known Holarctic species of sect. *Pluteus*, showing the groupings within the section.

Below, to the left: the close relationship of the known NL species shown after pruning other species from the same tree. Given such phylogenetic propinquity, morphologic similarity should come as no surprise, making identification to species a challenge.



Pluteus elaphinus
A. collection 2004-Sept-18
(photo by Roger Smith)
B. collection MS9-018
(photo by Roger Smith)
C. Pleurocystidia with bifid hooks

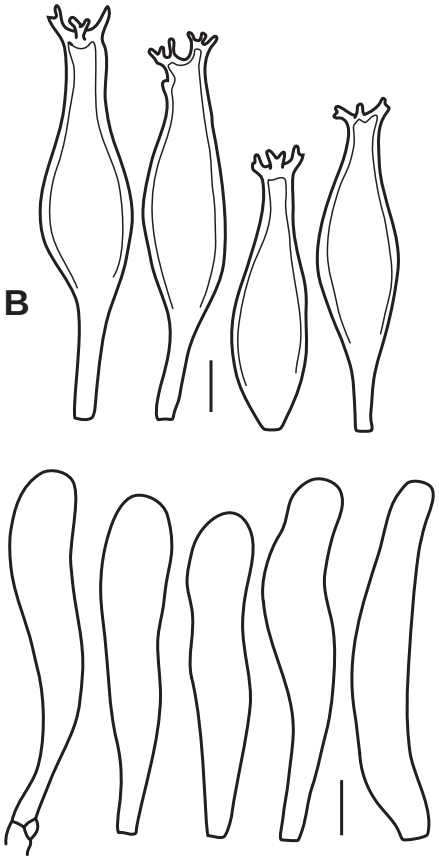
Pluteus elaphinus Justo, Phytotaxa, 180: 1-85. 2014.

This species is very similar morphologically to *Pluteus cervinus*, and the name makes a reference to that similarity. "Elaphinus" comes from the Greek "ἔλαφος" meaning "deer", just as "cervinus" is the Latin for deer. The most reliable morphological characteristic to differentiate between *P. elaphinus* and *P. cervinus* is the morphology of the pleurocystidia: predominantly bifid hooks in *P. elaphinus* and entire hooks in *P. cervinus*.

In Newfoundland it has been recorded from Bakers Brook Pond Trail (on decayed wood of *Betula*, 18 September 2004, leg. G. Rideout, nrITS KJ009779) and from Notre Dame Provincial Park (on decayed wood, 12 September 2009, leg. K. Liimatainen, nrITS KJ009782).

This species also occurs in Ontario, New York and Massachusetts in transitional boreal/temperate or mountainous forests, but it has not been recorded in truly temperate forests.

Pluteus eos
A. Collection 050916-AV12 photo by Andrus Voitk
B. Pleurocystidia
C. Cheilocystidia



Pluteus eos Justo & E.F. Malysheva, Phytotaxa, 180: 1-85. 2014.

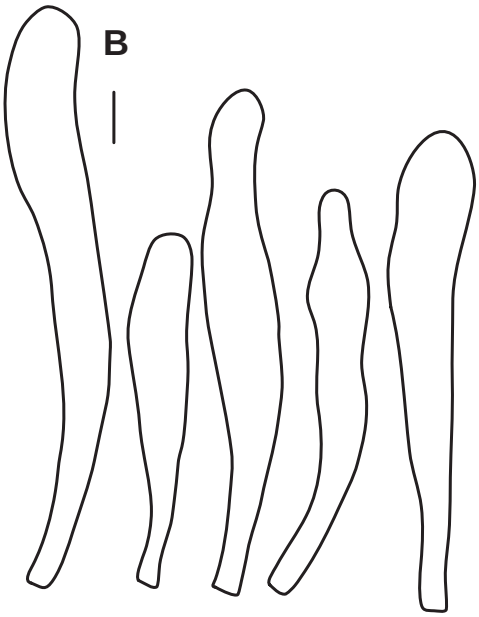
This species belongs to the species complex around *Pluteus pouzarianus* Singer, all characterized by the habitat on conifer wood (or wood chips) and the presence of clamp-connections in the pileipellis. Molecular data indicate that *Pluteus pouzarianus* itself is confined to the western parts of Eurasia (Europe, European Russia) and all collections in this group from eastern Eurasia and North America have turned out to be different species.

Pluteus eos can be separated morphologically by the partially pigmented lamella edges (pigmented cheilocystidia) and the pleurocystidia with apical bifid hooks.

In Newfoundland it has been recorded from Lower Main River (on decayed wood, 06 September 2011, A. Voitk MR2-080, nrITS KJ009796) and Pasadena Ski Trail (on decayed wood, 16 September 2005, M. Voitk 050916-AV12, nrITS KJ009795, tef1 KJ009809).

This species also occurs in New York, Massachusetts, and the Russian Far East (Primorsky Territory). The specific epithet eos (derived from "Ηως" the name of the Greek goddess of dawn) makes reference to this distribution in the eastern parts of Eurasia and North America.

Pluteus primus
A. Collection 060816-AV13
photo by Andrus Voitk
B. Cheilocystidia



Pluteus primus Bonnard, Mycologia Helvetica 4: 169. 1991

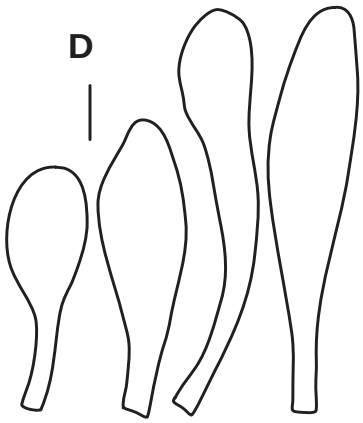
This species was originally described from Switzerland and it is mostly characterized by the narrowly clavate or cylindrical cheilocystidia up to 120 (–200) µm long and the pileipellis hyphae with clamp-connections at all septa.

In Newfoundland it has been recorded from Gros Morne National Park, (Western Brook Pond, on decayed wood, 17 August 2004, A. Voitk, nrITS KJ009780, tef1 KJ009824) and Pasadena Ski Trail (on wood chips, 16 August 2006, A. Voitk, nrITS KJ009781, tef1 KJ009823).

It has been also recorded from Germany, the Russian Caucasus and California. This species has been recorded on wood chip piles in California and Newfoundland; the occurrence in this man-made habitat may account for part of its distribution, but future studies are needed to confirm that.

Well aged specimens on conifer sawdust, presumed to be P. primus because of the substrate and their huge size (largest caps over 150 mm diam). Photo by Maria Voitk, who also contributed the title banner photo from the same collection.

Pluteus methvenii
A. Collection 090626-AV04
photo by Andrus Voitk
B. Collection 060916
photo by Roger Smith
C. Collection TN5-029
photo by Roger Smith
D. Cheilocystidia

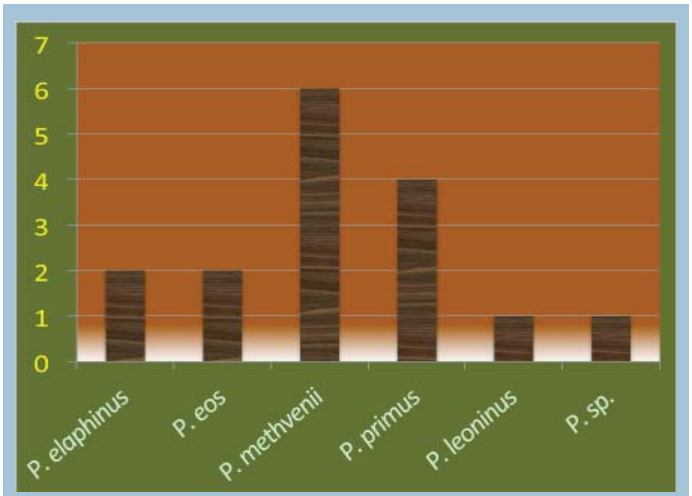


Pluteus methvenii Minnis & Justo, Phytotaxa, 180: 1-85. 2014.

This species is very closely related to *Pluteus primus* and the best morphological character to tell them apart is the shape of the cheilocystidia (clavate to narrowly clavate) and their length (up to 85 µm long). The species was named after the American mycologist, Andy Methven, who will be a member of the faculty of FNL Foray 2015.

In Newfoundland it has been recorded from Castle Hill National Historic Site, (on decayed wood of Abies balsamea, 16 September 2006, A. Voitk, nrITS KJ009794), Pasadena Ski Trails (on decayed wood, 26 September 2009, A. Voitk, nrITS KJ009793, tef1 KJ009829), Salmonier Nature Park, (on decayed wood, 13 September 2006, S. Knight, nrITS KJ009783, tef1 KJ009827 (CUW), and from town of Terra Nova (on conifer wood, 10 September 2011, G. Bishop, nrITS KJ009792, tef1 KJ009828).

This species also has been recorded from Louisiana and North Carolina in the United States, and probably is widespread in Eastern North America.



Relative frequency of Pluteus *species in NL from this study, including subsequent field identifications (not sequenced).* P. methvenii *seems to be our commonest species.*

Table 1. Morphological overview of the species of *Pluteus* section *Pluteus* recorded so far in Newfoundland and Labrador.

Note: because of lack of data, the two species outside section *Pluteus*, mentioned on this page, are not included.

		elaphinus	eos	primus	methvenii
cap	diameter	25-65 mm	20-50 mm	35-100 mm	35-60 mm
	surface	radially fibrillose	smaooth or radially fibrillose	smooth or innately radially fibrillose	smooth or innately radially fibrillose
	disc	squamulose	±	±	±
	colour	brown to dark brown	brown to dark brown	brown to gray-brown; occasionally white	brown to dark brown
gills	edge	white, flocculose	partially pigmented, white flocculose distally	even to white floc-culose	even to white floc-culose
stem	size, mm	35-80 x 4-10	30-65 x 3-15	35-130 x 4-20	35-130 x 7-20
	surface	dark fibril and/or squamules	may have gray-brown fibrils	may have gray-brown fibrils	may have gray-brown fibrils
flesh	smell	raw potato	indistinct	raphnoid or indistinct	not recorded
spore	size range	6-8 x 4.5-6.5 μm	6.5-9 x 4.5-6.5 μm	7-9.5 x 5-7 μm	7-9.5 x 5-7 μm
	Q	1.25-1.55	1.35-1.6	1.25-1.6	1.2-1.6
pleuro	hooks	2-4, bifid	2-4, bifid	2-4, intact	2-4, intact
cheilo	shape	clavate to subclavate	subclavate to cylin-drical	subclavate to cylin-drical	clavate to subclavate
	Size, μm	25-65 x 14-25	40-70 x 12-25	55-120(-200) x 8-25(-30)	40-85 x 10-20
	pigment	none	yes	none	none
pileipel-lis	clamps	none	common	common	common
ecology	substrate	deciduous wood	coniferous wood	coniferous wood, chips, sawdust	coniferous wood
	phenol-ogy	Sept	(Aug) Sept	all season (=Aug)	Sep-Nov

In addition to the collections in the *P. cervinus* complex, two other collections from Newfoundland were studied:

***Pluteus* sp**. (collection 09.08.21.av02, cover photo) belongs in Section *Hispidoderma*, very probably in the *Pluteus plautus* complex, but we have not been able to obtain molecular data for this collection.

Pluteus* cf. *leoninus (collection th13—no photo) also belongs in Section *Hispidoderma* but in a different group, the *Pluteus leoninus* complex. We did obtain a nrITS sequence for this collection and it is 99% identical with sequences from collections identified as *Pluteus leoninus* (a European species with yellow colors in cap and stipe), *Pluteus roseipes* (a European species with brown or brown-grey cap and pink colors in the stipe) and *Pluteus flavofuligineus* (originally described from New York-USA, and described as a taxon with a yellow cap and pink colors on the stipe).

Both the *P. plautus* and *P. leoninus* species complexes are still in need of a detailed revision to clarify their taxonomy, nomenclature and species delimitation.

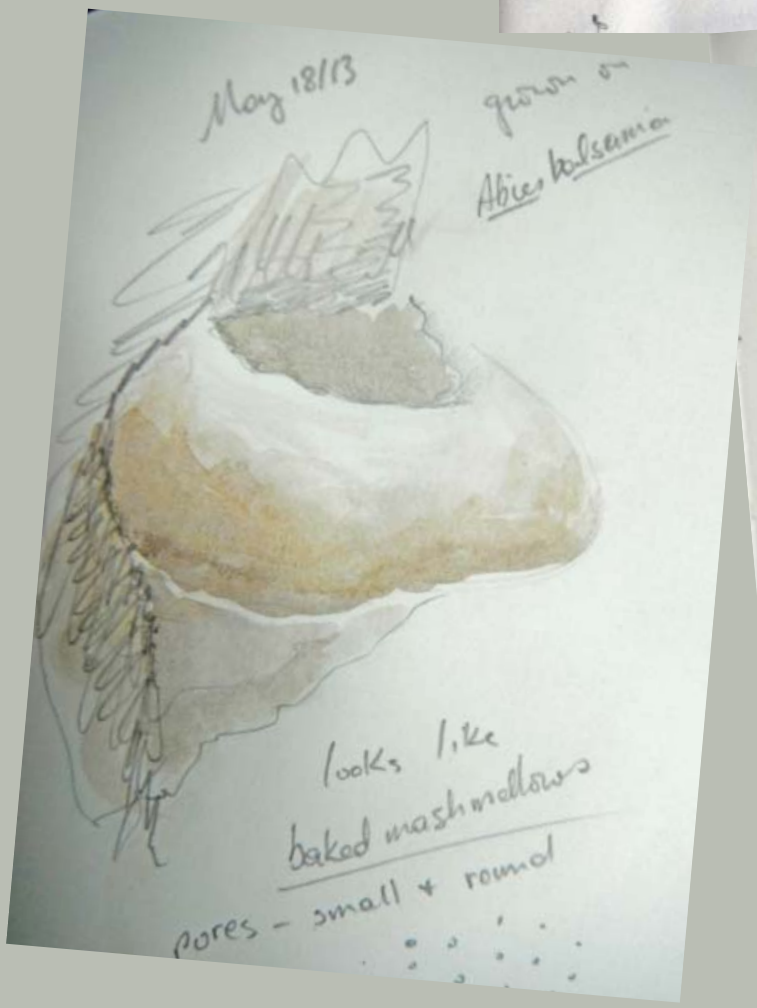
Acknowledgements

This study would not have been possible without the collections and photographs provided by Andrus Voitk and all people involved with Foray Newfoundland & Labrador.

Reference

1. Justo A, Malysheva E, Bulyonkova T, Vellinga EC, Cobian G, Nguyen N, Minnis AM, Hibbett DS: Molecular phylogeny and phylogeography of Holarctic species of *Pluteus* section *Pluteus* (Agaricales: Pluteaceae), with description of twelve new species. Phytotaxa 180: 1-85. 2014.

The Bishop's Sketchbook



Peziza ammophila

Andrus Voitk

Peziza ammophila (ammo = sand, phila = lover) is one of the few cup fungi known to inhabit sand dunes. Having spent some time exploring some of our sandy seashore, I was not aware that this mushroom grew in Newfoundland and Labrador until Michael Burzynski showed me a poster he made at the request of Forestry. He had decorated the poster with various mushroom pictures, and among them I spotted *Peziza ammophila*. Michael had photographed this odd mushroom in one of his walks through the sand dunes of Shallow Bay, not too far from his home.

One of the faculty foray days of our 2014 Foray was designed to explore this sand dune habitat, and the brown beach ball was found among marram grass (*Ammophila breviligulata*), exactly where Michael had placed the X on the map.

What does it do there? Does it decompose dead marram grass or other organic dune material? Possibly, although I did not find an obvious connection of its mycelium with old dead blades under the sand. There was not much else to eat among sand grains, so if that is not what it does, it must have a partner with whom to exchange raw material for nutrients. Could it be mycorrhizal with the grass? Possibly. Marram grass is known to form arbuscular mycorrhizal relationships and many pezizas, previously thought to be saprobes have been shown to form ectomycorrhizal relationships[1], so we are half-way there.

Why is this mushroom found only in one small area in Shallow Bay, and not in other marram grass inhabited sand dunes in Newfoundland and Labrador? That answer may take a bit longer.

Reference

1. Tedersoo L, Hansen K, Perry BA, Kjoller R: Molecular and morphological diversity of pezizalean ectomycorrhiza. New Phytologist 170: 581-596. 2006.

Lower photos: Maria Voitk

Collema furfuraceum

a black jelly lichen

Yolanda F Wiersma, Michele Piercey-Normore

During the 2014 Foray, an interesting lichen species was found in the forest on the sand dunes of Shallow Bay. Exposed to the salt spay of the ocean, an olive-black leafy lichen, *Collema furfuraceum* (Arn) DR (Figure 1), also known as the "blistered jelly lichen", grew on branches of balsam fir (*Abies balsamea*) tuckamore. Plentiful at the littoral margin of the forest, it seemed to extend only a few hundred meters into the forest. Its known distribution is widespread on the east and west coasts of North and South America, Europe, Asia and Africa and it has been found in tropical and arctic regions. Although widespread, it is uncommon throughout North America[1], and its habitat on branches of balsam fir is unusual, making this a notable find.

Species of this genus are known as the jelly lichens. Collema comes from the Greek kolla, meaning glue or gelatin[1]. Those who remember the staple of 1970s wobbly desserts and salads will relate to the name. Jelly-lichens are recognizable because they lack a structured (i.e., have a non-stratified) cortex, and become gelatinous when wet because the sugars coating the blue-green algae swell up with water (though lacking the psychedelic colouration of the space-food desserts).

Collema is not the only genus of unstratified foliose lichens—others include *Leptogium*, *Leptochidium* and *Lempholemma*). However, unlike some of these, *Collema* has a thin fungal wall lacking a cortex on either side (as found in *Leptogium* and *Leptochidium*) and is never hairy (as in some species of *Leptochidium* and *Leptogium*)[2]. The blue-green alga *Nostoc* is the photobiont for all *Collema* lichens.

Recently the jelly lichens were reclassified based on genetics and the genus is now estimated to contain approximately 40 species[3]. All of the members of *Collema* are gelatinous and dark in colour (olive-black to nearly black) when dry and lighter in colour (olive-brown to yellowish-brown) when wet. The species found at the Foray, *C. furfuraceum*, is usually found on trees exposed to salt spray, most often poplars, though it can occasionally be found on rocks, but has not, to our knowledge, been reported on conifers. The lobes of the thallus are broad (5-10 mm across) and its most notable feature is the ridged surface. Degelius, the expert on this group, noted that the ridged appearances is less distinctive in North American specimens than elsewhere.[1] Apothecia are rare but occur along the ridges, and cylindrical isidia cover the thallus surface, but are globular in immature specimens, and in the well developed specimens at Shallow Bay. This difference in morphology and ecology may warrant a molecular study to test genetic difference between species.

Based on morphology alone, the species can be mistaken for species of *Umbilicaria* and *Tuckermannopsis*, both more common in Newfoundland and Labrador (Figure 2). Most *Umbilicaria* species have lobes of similar size and color when exposed to much light, when they are almost black. *Tuckermannopsis* species have small black projections (pycnidia) and cilia extending from the margins. *T. americana* and its allies usually have

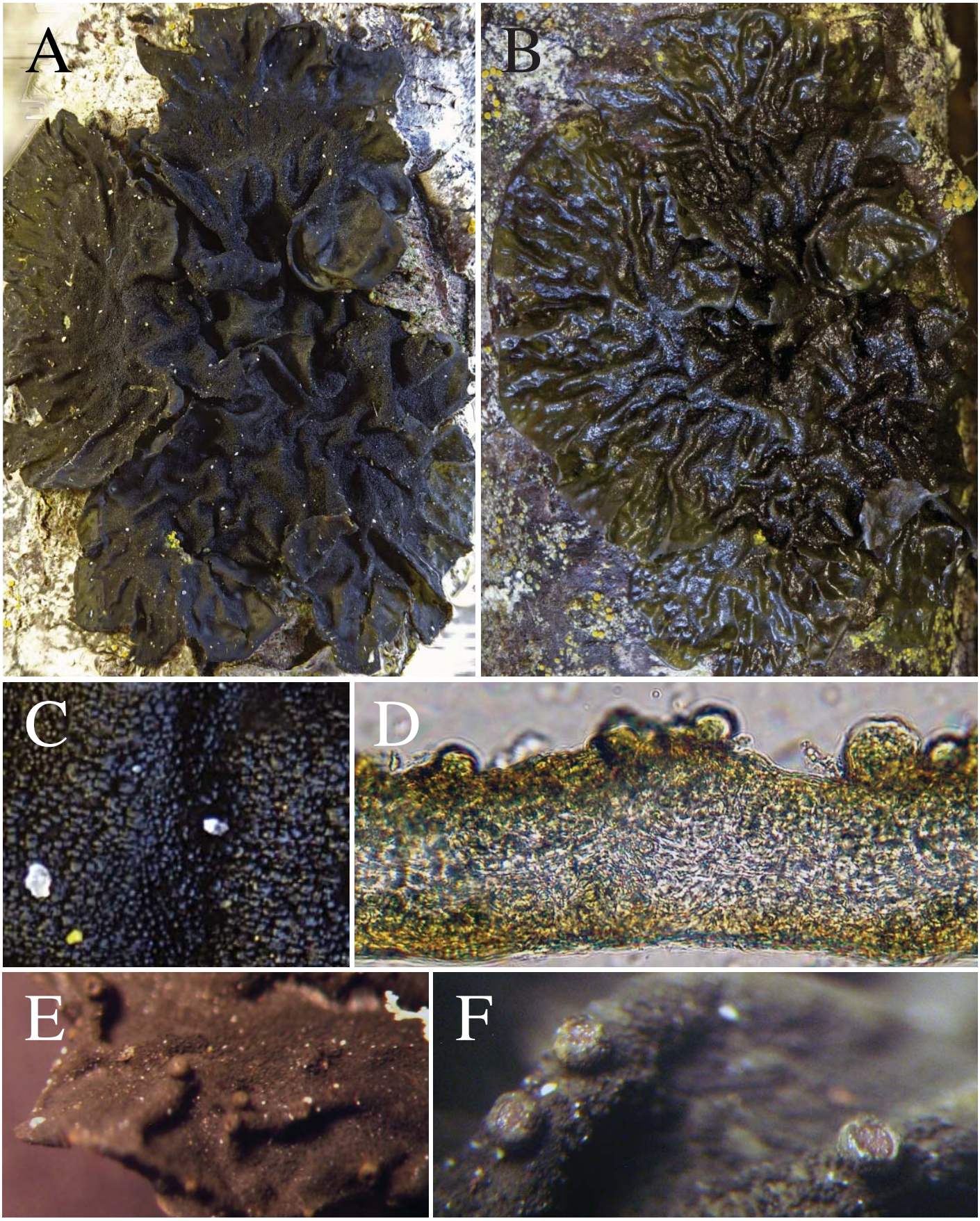


Figure 1. Collema furfuraceum. ***A*** *in situ*. **B** *same specimen, same orientation, after hydration, showing increased thickness and ridging, and more olive greenish colour, than seen on the dry specimen*. ***C*** *magnified view of isidia*. **D** *microscopic cross section of the unstratified thallus with a layer of fungal tissue on the upper and lower sides and globular isidia on the upper surface*. ***E*** *apothecia on outer edge of lobe*. ***F*** *magnified view of apothecia. These are uncommonly reported, possibly because they are so well camouflaged.*

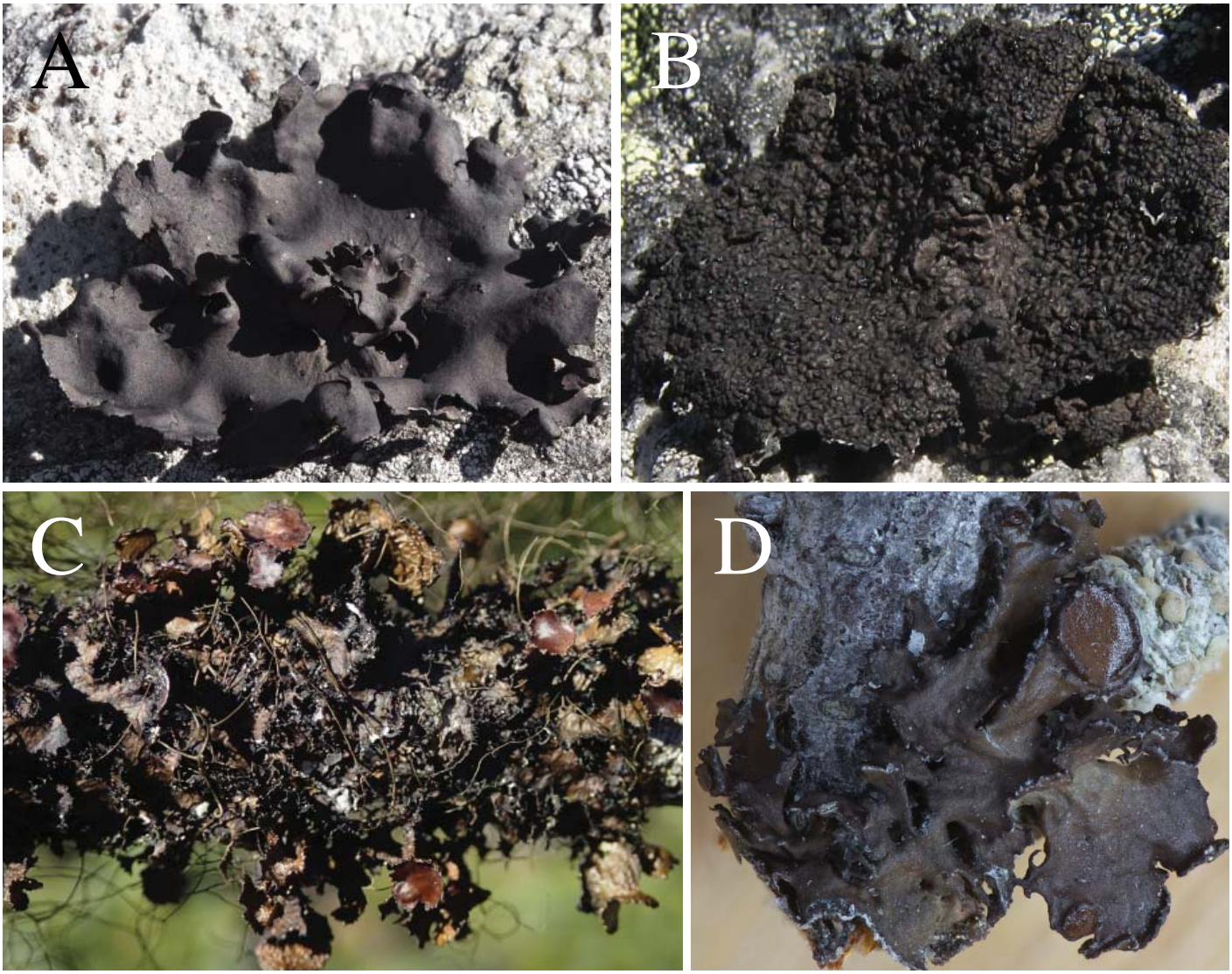


Figure 2. Examples of some species of Umbilicaria *and* Tuckermannopsis *resembling* Collema furfuraceum. ***A*** Umbilicaria polyphylla, **B** Umbilicaria hyperborea, ***C*** Tuckermannopsis americana, ***D*** Tuckermannopsis orbata. Umbilicaria *is usually on rock, usually more symmetrically round with a central point of fixation.* Tuckermannopsis *has more olive colouration, large apothecia, and pycnidia on the margins. Both differ microscopically and have a different photobiont.*

large apothecia whereas *C. furfuraceum* usually lacks them. Both *Umbilicaria* and *Tuckermannopsis* have a structured thallus with upper and lower cortices, and a medulla with *Trebouxia* in the upper layer. This photobiont is a green alga, larger in diameter and grass green in colour, compared to the strings of cells, sometimes even solitary cells, of *Nostoc*.

Despite their less-than-distinctive appearance, the jelly lichens are an interesting group that usually live in moist habitats and contribute nitrogen to the environment. *Collema flaccidum*, collected in Russia and Israel, contains colleflaccinoside B, which has been found to have anti-tumour properties.[4] However, it is doubtful that it possesses the properties to make moulded salads.

Acknowledgments

We thank Maria (2B) and Andrus (title banner, 1A, B, C, 2A, D) Voitk and Michel Burzynski (2C) for their photographs.

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Lepista nuda, the perfect pizza mushroom

Photos: Maria Voitk

Mail: Mushrooms are pretty well done. Is there anything particular to look out for this late in the year? GH

When the leaves have fallen, with only the odd red maple stubbornly holding on to a golden crown, one thing worth looking for is *Lepista nuda*. It is a late fruiter, and can be hard to see among the colourful leaves. It starts out purple all over, but with time the purple becomes brownish on the cap and whitish on the stem and gills. Thus, a variable colour, depending on when you see it. It has a pleasant, fruity odour. It is a secondary decomposer of organic material, and can be found around civilization in areas where grass clippings and raked leaves are regularly dumped. In fact, it is possible to grow them on established leaf piles by burying some mycelium and or bits of cap with gills on the soil under an established mulch/compost pile of grass and leaves.

Once *Lepista* begins to grow and fruit, the colony can be kept going for years by continuing to put more grass or leaves on the pile each year.

In the woods you can find long rows and arcs of *Lepista nuda* in areas where leaves tends to collect naturally.

Earlier in the season it can be confused with some of the purple *Cortinarius* species. It is easy to avoid such a mistake, because *Lepista nuda* has a pinkish white sporeprint, while *Cortinarius* species all have a rusty brown sporeprint. A very close lookalike, and more common in the woods where we live, is *Lepista graveolens*. It is not toxic, but has such an unpleasant smell and taste that should you add it to your food, you will throw all the food away. Easy to avoid this mistake by smelling your find first.

As an edible, it has many things to recommend itself. The taste is good, the smell is very pleasant, flesh is firm and it is not slimy. This combination, particularly the firm flesh, makes it a perfect mushroom for your pizza, adding a firm texture with a definite mushroom flavour. At our pizza tasting, attended by some weird people who prefer to avoid mushrooms in their diet, the meat combination with *Lepista nuda* was the crowd favourite; it also earned top marks in the seafood category (with fresh shrimp, scallops, salmon, and some smoked oysters, in addition to various cheeses, onion, garlic and tomato).

For the real discerning mushroom aficionado, here is a little tip. As you can see from the list of ingredients or toppings, pizza contains many competing spicy flavours. If you are curious about a mushroom's "natural" flavour, the best way is probably to have it fried with very few onions, on toasted French or similar relatively mild white bread. In this setting the fruity smell and taste of *Lepista nuda* come through much more successfully, than on the pizza. Which in no way lessens its value as a perfect pizza mushroom.

Andrus Voitk

The empty skillet

Maria Voitk

When the moon hits your eye like a Lepista Pie

Lepista pie—the perfect pizza for the table or the mountaintop.

INGREDIENTS

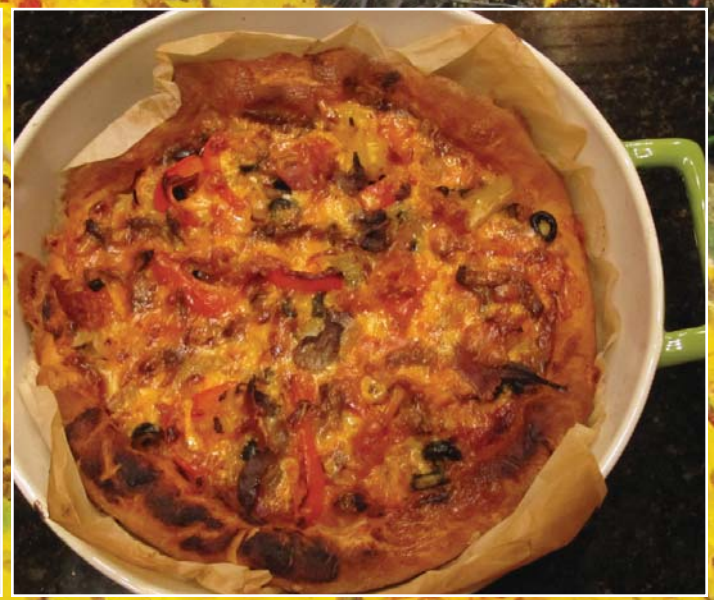
Enough pizza dough for enough pizzas.
Enough toppings for same amount of pizzas.
Season to taste.
NB: Water, juice, beer or wine served with pizza.

Lepista cleaned, sliced, fried 7 min. with onions and garlic in oilve oil. Then placed on pizza with a smattering of other toppings.

PROCEDURE

Make Pizza dough using own recipe. Select toppings of own choice. Precook those toppings that need more than a few minutes in oven. Place on pizza in own order, make own design. Cook in oven at 400°F 12 min. Do not burn crust!

We made several. Toppings above are from the one that was voted best. Order: dough, homemade pesto, covered by feta cheese, then layer of onion, *Lepista nuda*, hot dry salami, garlic, green onions, Oktoberwurst, sundried tomatoes, then alternating asparagus and prosciutto radially like spokes.



Book review

Adolf Ceska

Various publishers

Various languages

Various prices—see web

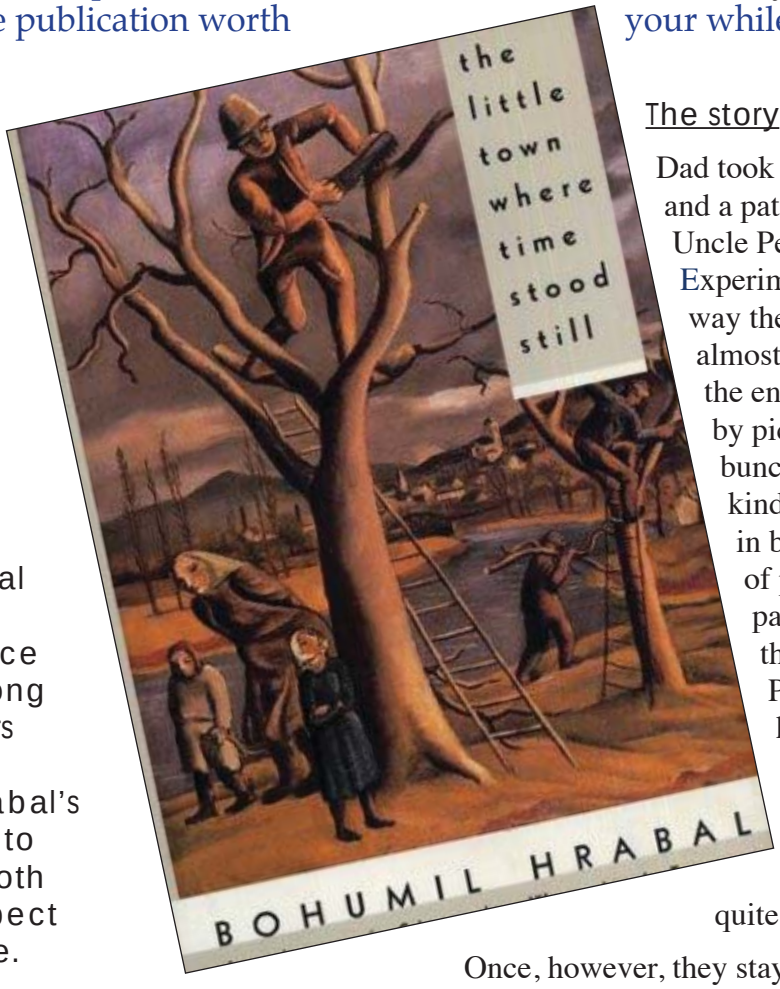
Bohumil Hrabal

The little town where time stood still

Editor's remarks are only to say that our usual book reviewers review the books, whereas here we turn the tables and allow each of you to review this book yourself, toward which end Adolf Ceska has translated the only passage in the book, the book available in English translation for those not of a Bohemian bent, that deals with mushrooms, presenting it betwixt opening and closing remarks of his own making, akin to parentheses or even a caressing lover's embrace, so that if you like the story, you can get the book and review it for yourself, but in this our introductory commentary we should be amiss if we did not point out to you that in his translation Adolf did not reproduce very painfully accurately the flavour of the run-on sentences that Hrabal liked to use in his writing, to the extent that he wrote one entire book as one single sentence (but not this one), and also that the said translation has been published before and is taken with minor changes from Botanical Electronic News #43, April 1, 1994 <www.ou.edu/cas/botany-micro/ben/> that Adolf edits, a free publication worth your while to consult.

Opening remarks

A strange case of poisoning with edible mushrooms, after a long conditioning to inedible and poisonous mushrooms, was described by Bohumil Hrabal from the Czech Republic. The fierce competition among mushroom pickers in the Bohemian forests forced Hrabal's father and uncle to start collecting both inedible and suspect fungi for the table.



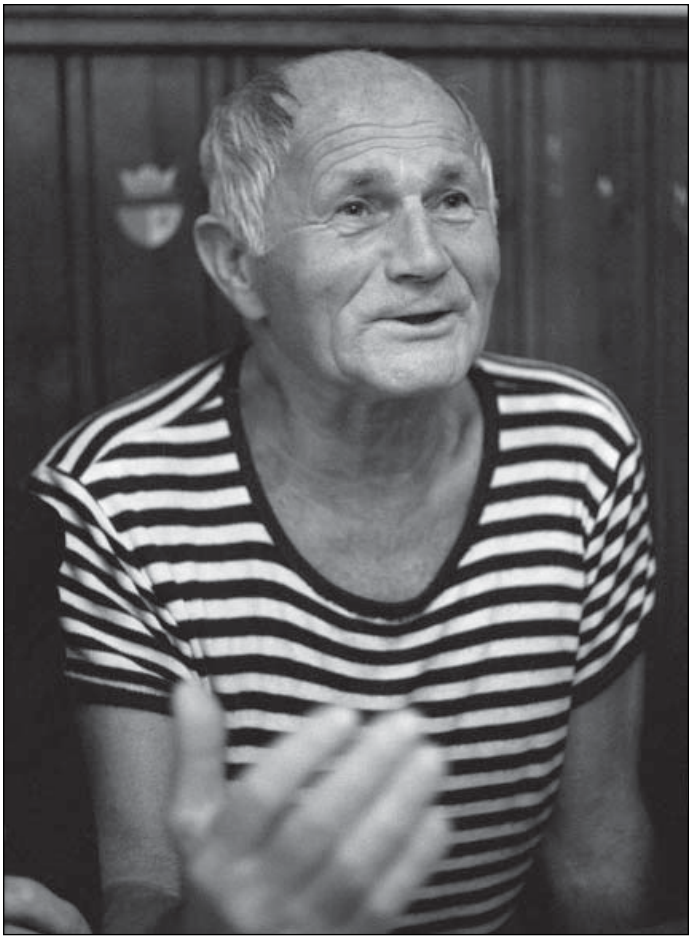
The story

Dad took with him a saucepan and a pat of butter and he and Uncle Pepin began to practice some Experimental Mycology. This way they always had mushrooms, almost from the late spring up to the end of autumn. They started by picking grey tall amanitas and bunches of toxic sulphur tuft, kindled a fire, softened onion in butter, and added a pinch of poisonous earth star and panther *Amanita*. Dad handed the fried concoction to Uncle Pepin first, waited half an hour and since Uncle wasn't hearing any ringing sounds, ate some of the mixture too, and pronounced it quite excellent.

Once, however, they stayed in the woods for five

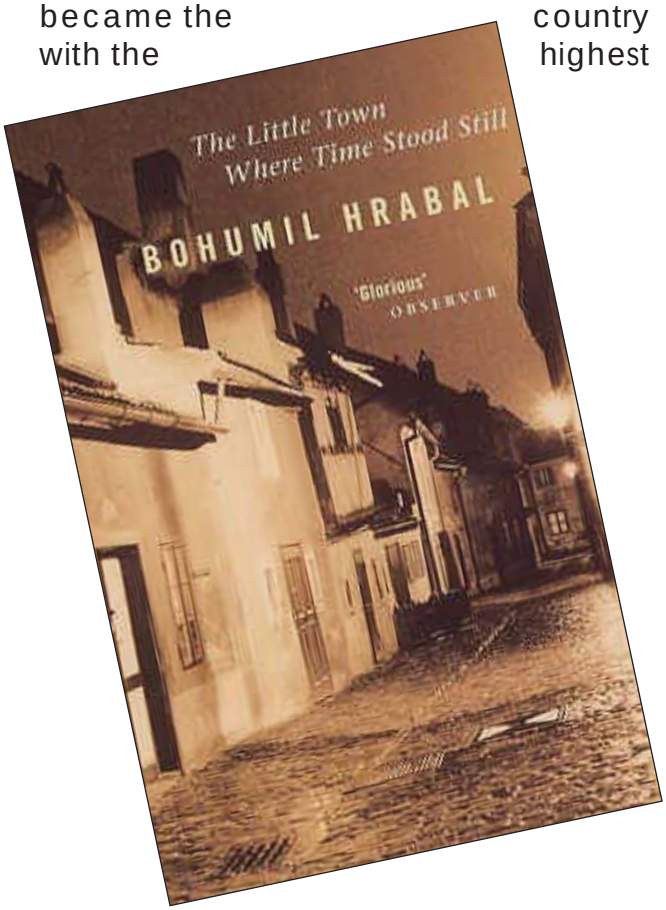
hours because Dad had added a bit more earth star or something similar, and their legs had gone numb. Uncle Pepin rejoiced that he would never have to bother walking again, but a couple of hours later he was to be disappointed. Strength returned to their limbs and they walked to the train station and returned safely home.

One day they [found a nice patch of edible *Leccinum*] and filled a basket piled high with these beautiful boletes. And so it happened that that same evening, when for the first time in ages Mum cooked up some classical edible mushrooms, all three of them became horribly sick and Uncle Pepin had fainting spells and diarrhea, and then got a dreadful thirst and vomited again, and this was followed by a dull headache, cramps in his calves and intermittent double vision as well as continuous ringing in his ears. When they were taken to the hospital, the specialist said they'd all been poisoned by edible mushrooms, and the last person that that had happened to was Professor Smotlach [sic!] himself, found in a deep coma after partaking of edible mushrooms.



Closing remarks

Czech Professor Smotlacha was known for his bold edibility experiments. After he promoted *Amanita pantherina* as an excellent edible mushroom, Czechoslovakia became the country with the highest incidence of fatal mushroom poisonings, leaving Canada in second place, this high rank thanks only to the valiant efforts of expatriate mycophagous Czechs in the Victoria area.



After the death of Professor Smotlacha—from natural causes, naturally—his wife confessed that he lived so long only because she always threw away the poisonous mushrooms while cooking her husband's experimental meals.

True story.

Books to hit our bookshelf...

Andrus Voitk

Another bumper Foray for free books at the Editorial Suites and Executive Offices of Omphalina! One of the good things about inviting faculty, is that if you do not insult them too much, they may give you a book. Because the two featured here are probably not practical for most Newfoundlanders and Labradoreans, they will not be reviewed formally. However, it is interesting to see what other people write and how. Each book has some very good features, that could be very helpful, should anybody consider a parallel effort locally.

Indicator mushrooms (Sienet ja metsien luontoarvot), by Tea von Bonsdorff and seven other distinguished Finnish mycologists, ecologists and mycophiles.

The book describes indicator mushroom species for 14 Finnish forest habitats (e.g. spruce dominated forest, spruce dominated herb-rich forest, spruce dominated forest on calcareous soils, pine dominated forests, pine dominated forests on calcareous soils, etc.). Non-forested habitats are not covered.

Each selected indicator species receives a full description and superb photo. There is a synopsis in English at the beginning of the book, and each forest habitat is also described in English at the beginning of its section. The rest is in an enviable flow of impeccable Finnish.

Interestingly, indicator species are chosen from both common mushrooms of the selected habitat, as well as very uncommon ones. Common species can be determined the first time, but to know whether a single encounter is a chance find of something unique for the habitat, or for a much larger region, requires repeated familiarity with all the featured habitats. At least some of the seasoned co-authors can be expected to have such an amplitude of experience. Using mushrooms as habitat indicators can be very useful, as well as interesting. The data our Foray has generated over the years can be mined to yield similar information for our province. The May Model was a first step in this direction. It suggested that the number of collections—which we record— is a reasonable approximator of commonness, and allows the determination of indicators, at least using common mushroom species.

The outer spores, by four BC mycologists, including 2014 FNL faculty member Oluna Ceska.

When the book first appeared, Jim Ginns suggested we review it in Omphalina. Our reviewer designate challenged the editor's reasoning to review a book of mushrooms from islands in the bellicose Pacific Ocean in a journal dedicated to the mycota of an island in the pacific Atlantic. His point still applies.

That said, there are several aspects of this book which would serve an east coast mycophile. As the cover already hints, the book has pages and pages of beautiful colour pictures. Any reader of Omphalina, conditioned to eye candy, would feel pleased turning those pages, even if they showed precious few species that we have in common. The content is wide ranging, at times specific to the Haida Gwaii Islands and at times more general. A nice summary of the data generated by five years of surveys closes the book.

As any book put together by dedicated people, it has many good parts that are both relevant and enjoyable for people who do not collect in the region. One thing stood out in my mind, above all else. The first chapter, "About mushrooms", only nine pages long (almost half given to illustrations) presented the cleanest, crispest and most approachable discussion of what mushrooms and fungi are, where they fit in, what they do and how they do it. Just how good was it? Well, if I were to write a book about mushrooms again, I'd ask these authors to write the same section for my book.

Exobasidium oxycocci

Andrus Voitk

Exobasidium is a genus of white-spored smuts found on many of our heath plants. Spores infect a suitable host plant, germinate, grow and sporulate. They are borne by wind and rain, possibly insects, to other healthy plants, to start the cycle anew. The cycle is annual, so that infection from one year sporulates the next.

Rather than produce a fruiting body of its own (a mushroom), it converts the host into its fruiting body. Mycelia grow under the upper side of the leaf and provoke a red-yellow-brown colour change. The leaf thickens (forms a plant gall) and the disproportionate swelling of the upper leaf surface makes the leaf buckle upwards like a protective cap.

Basidia (spore bearing cells) project outwards from the underside, bearing white spores. These make the undersides white. The spores are very sensitive to sunlight, so this structure serves to protect them (although some waft to settle on top of the leaf as a white powder).

Thus, the fungus only contributes the sporulating layer, the hymenium. The protective cap and stem come from converting the host's energy to its needs, in addition to using it as a food source. Clever.

The genus tends to be very host specific. More than half of over 600 *Exobasidium* species are limited to a single host, and less than 2% will grow on 20 or more. *Exobasidium oxycocci* seems to be limited to our two cranberry species, *Vaccinium oxycoccos* (illustrated) and *V. macrocarpon*. The parasite can be a significant problem for commercial cranberry growers. Infection is aided by wet conditions, naturally prevalent in the habitat these berries prefer. It can spread easily through a field, decreasing fruit production by 33% in infected plants.

In the wild it is not a problem (except as a reservoir to infect commercial plants). On our bogs and heaths it seems to be more common on *V. oxycoccos* than *V. macrocarpon*. We can derive great pleasure from the colourful leaf changes, and once recognized, it is useful to swell up a foray list, especially in an otherwise poor mushroom year.

"THE" lichen on our serpentine rocks

Michele Piercey-Normore

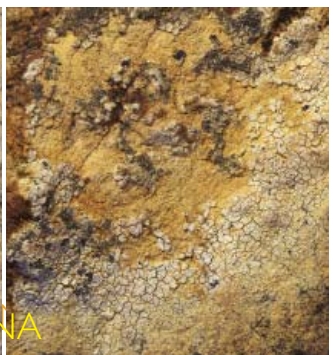
Peridotite is found 12 km down within the Earth's core, rarely accessible to those of us on top of the crust. In Newfoundland we are custodians to some of the greatest fields of this serpentinized rock on earth, spewn here after the collision of the tectonic plates that formed ancient oceans and continents. The rock contains high quantities of heavy and other metals, making it inimical to most forms of life. Plants have not established themselves in many of our peridotite fields even after 500 billion years.

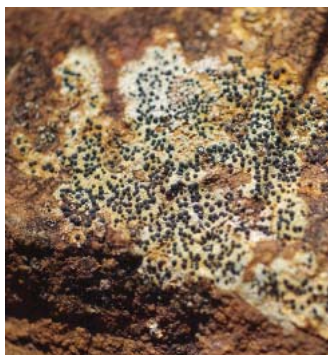
If you have walked over these barren rockfields such as the Tablelands in Gros Morne National Park, you cannot have failed to notice that the only living organism seems to be a pale lichen, able to grow where others fear to spread. Colourful lichens, often several species on a rock, such as on the left, are the sign of an erratic, a rock—usually granite—dropped here by moving ice and water during the to and fro of glaciation.

During the 2014 foray we did a preliminary lichen overview of the Tablelands. What seemed as only one species living among the heavy metal crowd, turned out to be several species. The title banner shows a centrifugally expanding light lichen. But to the left of it, you will notice an asymmetric darker one with several apothecia (the black spots). The bottom photos show at least three, possibly five, different species.

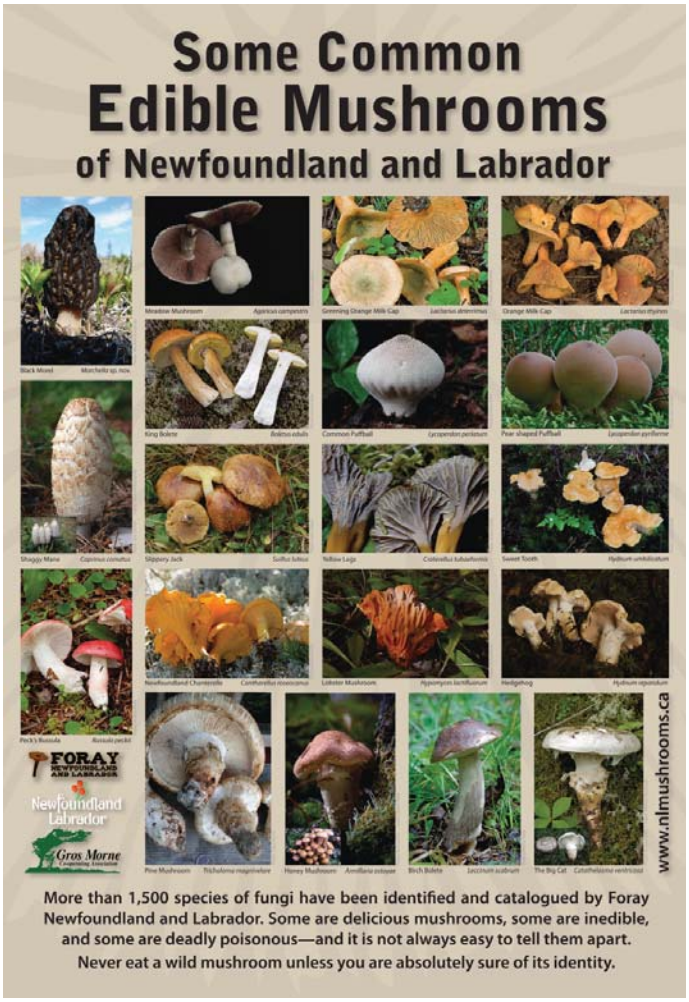
We plan to use the return to the Gros Morne area in 2015 as an opportunity to carry out a lichen survey of the peridotite in the Park. Please join us, and read more in the Report after.

Middle lower photo by the author; others by Maria and Andrus Voitk





Foray Newfoundland & Labrador poster of edible mushrooms



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- Visitor Reception Centre (Rocky Harbour) and
- Discovery Centre (Woody Point)

THE MAIL BAG

Dear Editor,

Since no manuals address shed roof mushrooms directly, I was forced to attempt the traditional route for identification in hopes of determining whether my shed was salvageable or the infestation was terminal and required total annihilation (e.g. burning for Guy Fawkes night). Gills are free and spore colour pink. This took me to *Pluteus cervinus*, the Deer Mushroom, to which my roof rotter bears some resemblance. Apparently this mushroom has horned cystidia, which neither I nor my roofing contractor could verify. However, the stalk has a streaked appearance which is supposedly a feature of said *cervinus*.

The Guy Fawkes option would make an interesting diversion from mundane everyday chores and responsibilities.

Henry

Dear Henry,

Permit me to tell that I have managed to live well with no thoughts to quell or ever to dwell on the cursed subject of *Pluteus*. Read the lead to learn that indeed we have no *cervinus*, but just between us gents: Justo found more. In fact we have four, all pink of spore, which gladly they shed on your shed overhead just to hear you say, "Cursed!" The stoutest is *primus* or first, and one named for father of fawn, another for dawn, and one for Andy Methven. G'wan, to what end did he lend his name to the cursed *Pluteus*? I hear next year Methven will be here, so to get square, you be there, ply him with beer and then bend his ear. When he's had his fill, present him the bill from your roofing contractor and say that that's for his contribution toward restitution for damages from his cursed *Pluteus*.

Yours sincerely,
Editor

PS:

Hark, as I bark again and again, next time keep the specimen of that accursed rotter, *Pluteus*!

Ed

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