OMPHALINA

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FORAY 2015 REPORT

Newsletter of FORAY NEWFOUNDLAND AND LABRADOR

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Dec. 10, 2015

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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OMPHALINA *is the lackadaisical newsletter of Foray Newfoundland & Labrador. There is no schedule of publications, no promise to appear again. Its primary purpose is to serve as a conduit of information to registrants of the upcoming foray and secondarily as a communications tool with members.*

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

seened AT *gmail* DOT *com,*

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COVER: The cliffs of Western Brook Pond, Gros Morne National Park.

Photo by: Michael Burzynski

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CONTENTS

Message from the Editor

It is that time of year again to get the foray report out the door and onto your screens before too much snow flies and planning starts in ernest for the next one. This report details another successful foray in beautiful Gros Morne National Park. We were lucky, once again, to have a fabulous group of participants and experts come together in search and study of the region's fungi and lichens.

This report exists because of the hard work of many folks. They helped by writing articles, sending photos, proofreading, and by compiling and studying the results. Without their dedicated efforts, there would be no report or likely, no foray.

To all of you, participants, trail leaders, data base folks, faculty, organisers, a big thank you!

Wishing you all the best of the holiday season and looking forward to seeing you at next year's foray.

Marian Wissink
Guest Editor

Words from the President

Numbers always make me drowsy, and as usual the foray report is full of numbers. But the numbers are one of the big reasons that we do this fungus and lichen survey every year—they condense the information about the foray into a concise form, and let us compare forays from year to year and from place to place.

This year we had 58 participants, including nine faculty. This means that there were a lot of both experienced and fresh eyes looking for specimens—and these are the most important tools that we use at each foray. Without your help, very few of these species would have been found. Once again, Killdevil Camp and Gros Morne National Park exceeded our expectations. Foray 2015 was our fifth foray in Gros Morne. The area, with the national park and Sir Richard Squires Provincial Park, contains a wide diversity of habitats easily accessible by trails. Of the thousands of fungi and lichens collected, 1,575 were identified and databased—representing 397 taxa, Roger took 710 specimen photographs (his trigger finger is still smoking), and 986 dried specimens were added to our fungarium. As Andrus points out in his analysis of the list, we are still far from exhausting the potential of this province's mycota.

During the pre-foray field trips with the faculty, Parks Canada gave us the opportunity to helicopter eight people onto the Long Range to sample the tundra overlooking Western Brook Pond. There, at the top of the 600 metre cliffs, we spent four hours collecting fungi and lichens—the first time that we have been able to survey the park highlands. Interestingly, in terms of species the highlands were the third most productive habitat surveyed during the foray.

I would like to express my thanks to this year's experts for offering their expertise and time; to Mac Turner and Killdevil Camp for providing us with wonderful accommodations, work spaces, and meals; to Superintendent Geoff Hancock and Parks Canada for erecting the sorting tent and offering helicopter support; to Chef Chris Chaisson and his crew for the fantastic Saturday cookup; to Chef Jason Nesbitt for the wonderful fungus-themed Faculty Dinner on Sunday evening, and to everyone who volunteered their effort and eyeballs to make this foray work.

Now I'll just close *my* eyes for a while until the numbers stop swirling around.

Michael

Photo: Michael Burzynski

FACULTY

Guest faculty:

Oluna Ceska
Nils Hallenberg
Andy Methven
Andrew Miller
Michele Piercey-Normore
Greg Thorn
Roger Smith

Local Faculty:
Michael Burzynski
Faye Murrin
Andrus Voitk

Photo: Roger Smith

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Andy Miller
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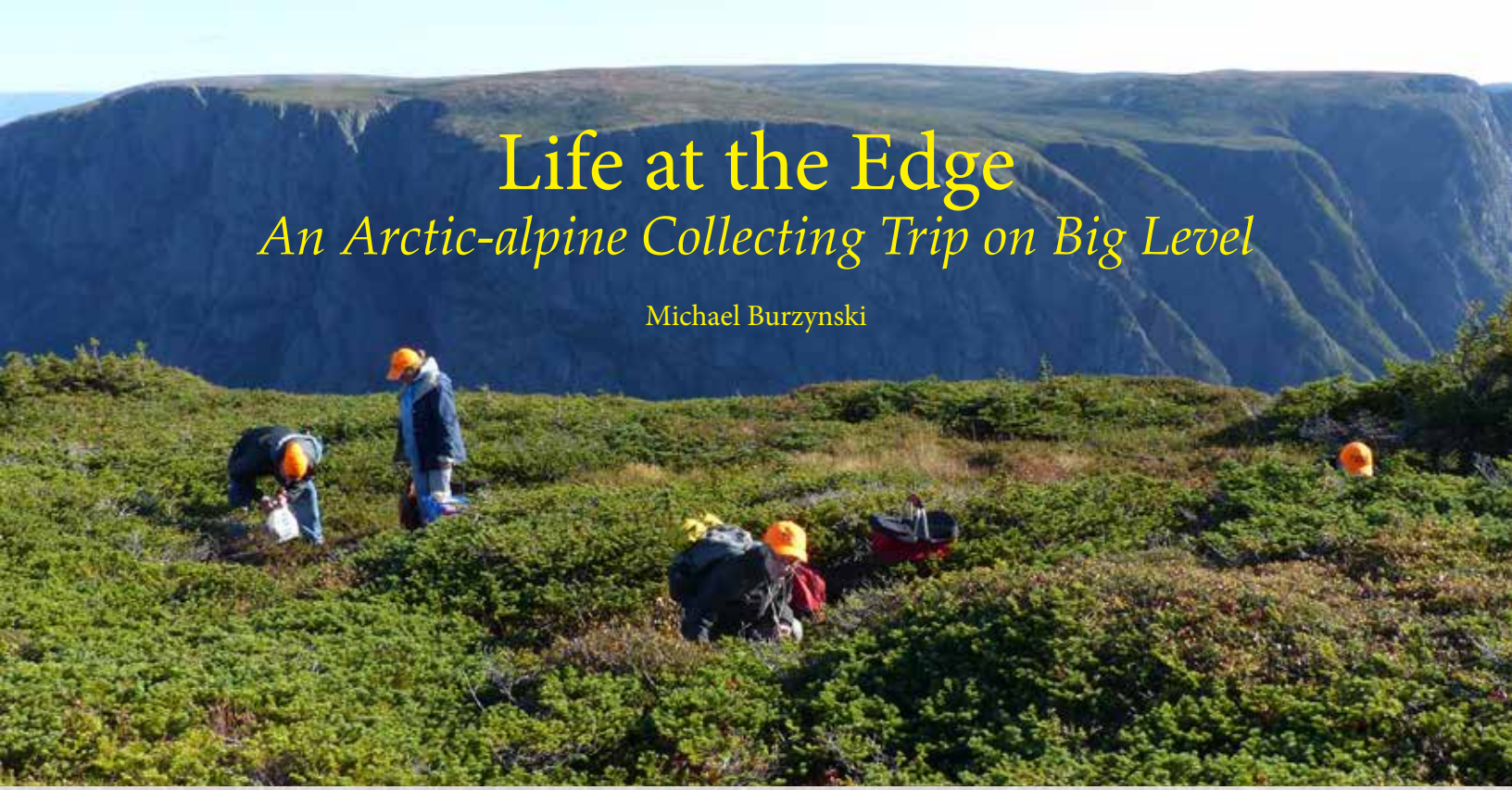
Katherine Flores

Photo: TA Loeffler



Life at the Edge

An Arctic-alpine Collecting Trip on Big Level

Michael Burzynski

Each foray is preceded by several days of faculty foray when visiting mycologists and lichenologists become familiar with the area and collect species of interest to them. We try to take an ecosystem approach with our sampling, and this year we had the opportunity to explore a habitat that we had not previously been able to reach—the highlands of the Long Range Mountains.

The highest point in Gros Morne is 806 metres above sea level, but strong winds and coastal climate force tree level down to only 600 metres. Above that is a landscape of arctic-alpine heath, rock barrens, and impenetrable stunted spruce-fir forest known locally as tuckamore.

During Faculty Foray 2015, Parks Canada offered us the chance to helicopter eight participants onto the highlands of Gros Morne National Park and to spend four hours sampling the Arctic-alpine Zone in the Big Level area, just south of Western Brook Pond. This is a wilderness area almost at the centre of the park, and there are no trails or other means of access. The team consisted of Greg Thorn, Michele Piercey-Normore, Chris Deduke, Faye Murrin, Andrus and Maria Voitk, Anne Marceau, and Michael Burzynski. Andrus and Maria concentrated on the tiny omphalinoids (see Andrus' article in this issue), Michele and Chris sampled lichens throughout the area, and the rest of us collected whatever we could find.

On the highlands, size matters. If you are a plant and you get too tall, cold dry winter winds will cut you back down to size. Because of this, hollows and gullies are a tangle of dwared trees, and exposed plateaus are usually lichen-covered outcrops surrounded by ankle-high shrubs. Mushrooms are some of the tallest features of the heathland, since they do not have to survive through the winter—the actual fungus organisms are protected within the soil. Many of the largest mushrooms in the heath and tuckamore are the typical species associated with trees and shrubs on the lowlands. On the highlands, these mushrooms seem outsized because they dwarf the surrounding vegetation.

By crawling into the tuckamore tangle we collected wood-decaying corticioids for Nils to work with back at the lab. He found that many of the species on the highlands are very different from those in the nearby lowland forest. This is an area that we should explore more thoroughly in the future.

This was a very productive trip, and a wonderful chance to start an inventory of the fungi of the highlands. Please see the Big Level column of the species list in this issue of ***Omphalina*** for a full tally of what was collected, and our ***Flickr*** site for photographs. We are indebted to Field Unit Superintendent Geoffrey Hancock and Ecosystem Scientist Tom Knight for making our Long Range sampling possible.

Anne spotted this Black Bear watching us from the edge of the cliff.

Some fungi were taller than the surrounding vegetation, but the tiny omphalinoids required a close search.

Andrus and the helicopter pilot. Our flights gave us great views of moose-altered forest, the boggy coastal lowlands, and the uplifted Long Range plateau. Photo Greg Thorn.

Michele sampling crustose lichens. Photo Greg Thorn.

Greg searching the tuckamore forest.

Michael photographing the gorge of Western Brook Pond. The area that we sampled was about 640 metres above the water. Photo Greg Thorn.

Four lichenomphalias from the top of Big Level

Andrus Voitk

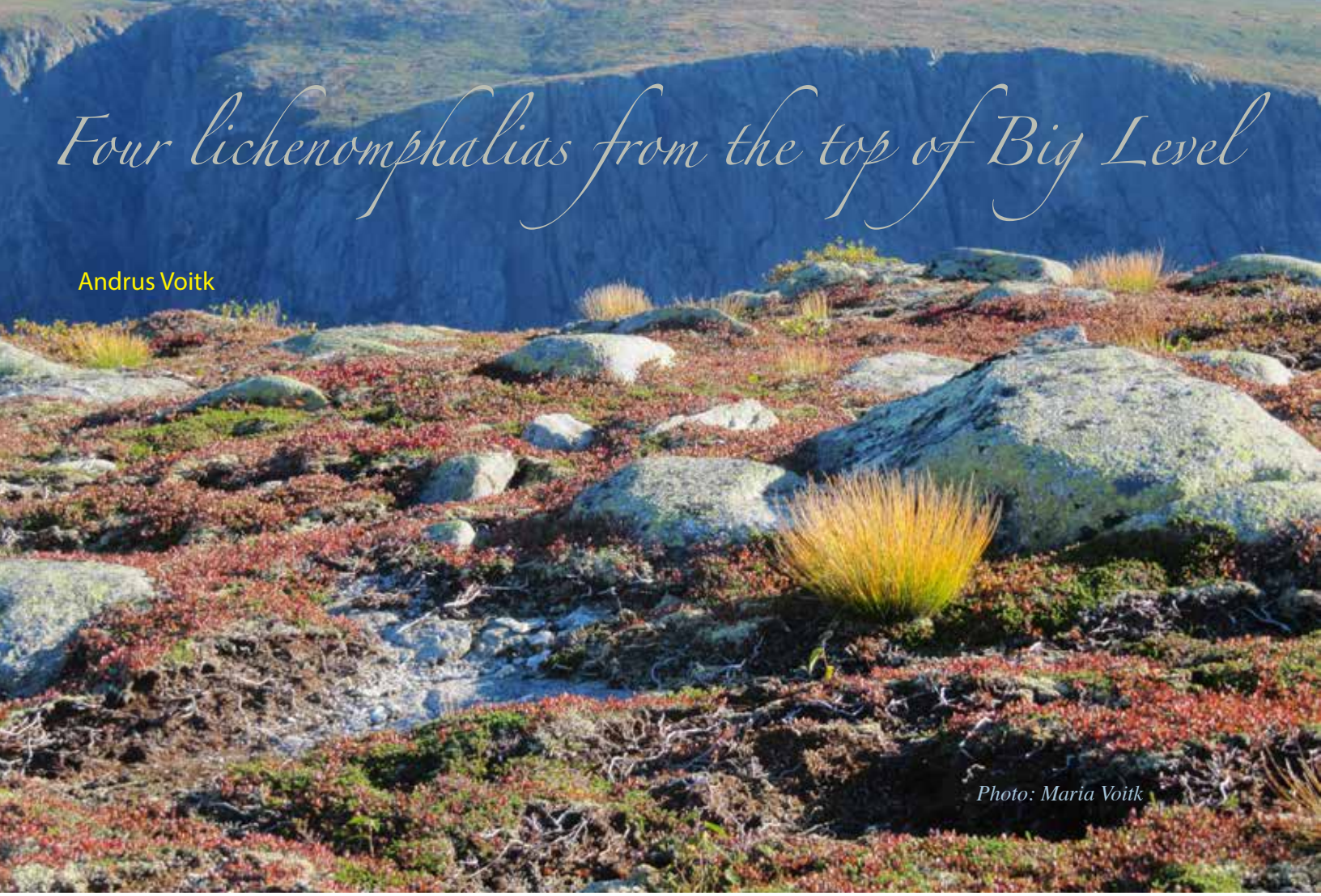


Photo: Maria Voitk

There is no question that for me the trip to Big Level during the Faculty Foray was the highlight of this year's foray. The sparse and barren arctoalpine habitat speaks directly to my heart like no other. Partial to this habitat, I am drawn to the animals, plants and fungi that live there; my favourites are the small lichenomphalias for whom this is home. The title banner photo shows prime real estate for these species, and sure enough, we found all four species known to exist in this province within steps of this site.

In 2006 I wrote about the three *Lichenomphalia* species we had seen in the province, after finding all three on top of Gros Morne Mountain.[1] In 2011 Maria and I discovered a small brown mushroom atop Mt Ignoble near our home,[2] but it took us another few years to recognize that there were more than one species there, and only one of these was a *Lichenomphalia*. Listed as an Omphalina for now, its exact identity is still being investigated: in the previous issue we described our attempt to locate its topotype on Mt Washington.[3] Well, of the four *Lichenomphalia* species on Big Level at the time, this small brown mushroom was the commonest. These finds will contribute greatly to the eventual accurate identification of this species.

Most lichens are ascomycetes. These four are lichenized (live mutualistically with algae) agaric (cap, gills and stem) basidiomycetes. Algal granules can be seen at the base of the stem for three; one, *L. hudsoniana*, has a unique leafy lichen thallus, that identifies it even in the absence of the fruiting body.

These four species are illustrated on the next page with photographs from Big Level. Beautiful subjects make even mediocre photos look gorgeous.

References

1. Voitk A, Voitk M, Mann H, Lebeuf R: *Arrhenia obscurata*—the phoenix of Mt Ignoble. Omphalina 5(7):5-21. 2014.
2. Voitk A: Three lichenomphalias from the top of Gros Morne Mountain. The Mycophile 47(5):1&11. 2006.
3. Voitk A, Voitk M: The elusive fairy. Omphalina 6(6):15-19. 2015.

Illustrations: **A** Lichenomphalia alpina. *Yellow cap and yellow stem, green mat of algal granules at base.* **B** Lichenomphalia hudsoniana. *Yellow cap, white stem, algae in leafy lichen thallus at base.* **C** Omphalina *cf.* oreades. *Brown small mushroom with hairy stem, green mat of algal granules at base.* **D** Lichenomphalia umbellifera. *White to tan mushroom, mat of algal granules at base. Photo not the best, so trust me!*

Title banner: Arctoalpine heath on the edge of the Western Brook Pond gorge. The Pond is over 500 m straight down—the tour boat looked like a very small toy making its way silently across the surface.


A


B


D
Photo: Maria Voitl


C

Tablelands lichen survey update

Michele Piercey-Normore

The serpentine rock of the Tablelands was heaved to the surface from the Earth's mantle during collision of tectonic plates about 500 million years ago. Full of chromium, iron and nickel, they are inhospitable to the growth of most organisms (background photo). Therefore, the few lichens that do grow on them (upper insert) are of special interest, because of their unusual preference, adaptation or tolerance.

Among the serpentine rocks are also erratics (middle insert), so called because they were dropped here by movement of water and ice during times of glaciation. Their more user friendly composition permits ready colonization by lichens, making their colourful presence obvious among the barren serpentine moonscape.

Particles from crumbling rocks accumulate in cracks between them, which also trap some wind-blown organic debris over the years, providing a substrate for hardier organisms. Lichens grow on this soil and its plants (lower insert). These areas are particularly rich in border regions of advancing heath and woodland.

Our lichen survey of the Tablelands, although particularly interested in documenting the species that grow on serpentine, also reviews lichens from the other two zones.

Photos: Michael Burzynski & Roger Smith

The lichen flora on the serpentine Tablelands in Gros Morne National Park was investigated during two days last Fall (September 19-20, 2015) with the permission of the park. While lichen surveys have been conducted on peridotite rock of other major world sites, this will be the first lichen survey for the serpentine fields in Newfoundland despite this area having been declared a World Heritage Site. The goal of our project was to collect representatives of all species in the area. Four locations along the south side of Highway 431 were chosen beginning with the Tablelands trail to explore the serpentine barrens, which were predominantly peridotite rock and a few erratics deposited from glaciation. Three additional sites between the trail and Trout River were all on serpentine but they contained an increasing number of erratics further west of the Tablelands Trail because of glacial debris carried from elsewhere. These sites were colloquially called Halfway Cliff, the wind tunnel, and the serpentine opposite Wallace Brook. By sampling from all types of rocks, soil, vegetation, and other debris we hope to determine whether the species on peridotite are unique to the peridotite rock or whether they are present on all types of rocks and can tolerate the conditions of the peridotite rocks.

The participants in the trip included Michael Burzynski, Anne Marceau, who were collectors and guides for the area; Joe Brazil, who was our designated photographer; and Chris Deduke and myself who collected lichens. We were joined by two people from Parks Canada [Kris Oravec and Erin McKee] for a short time on the first day who

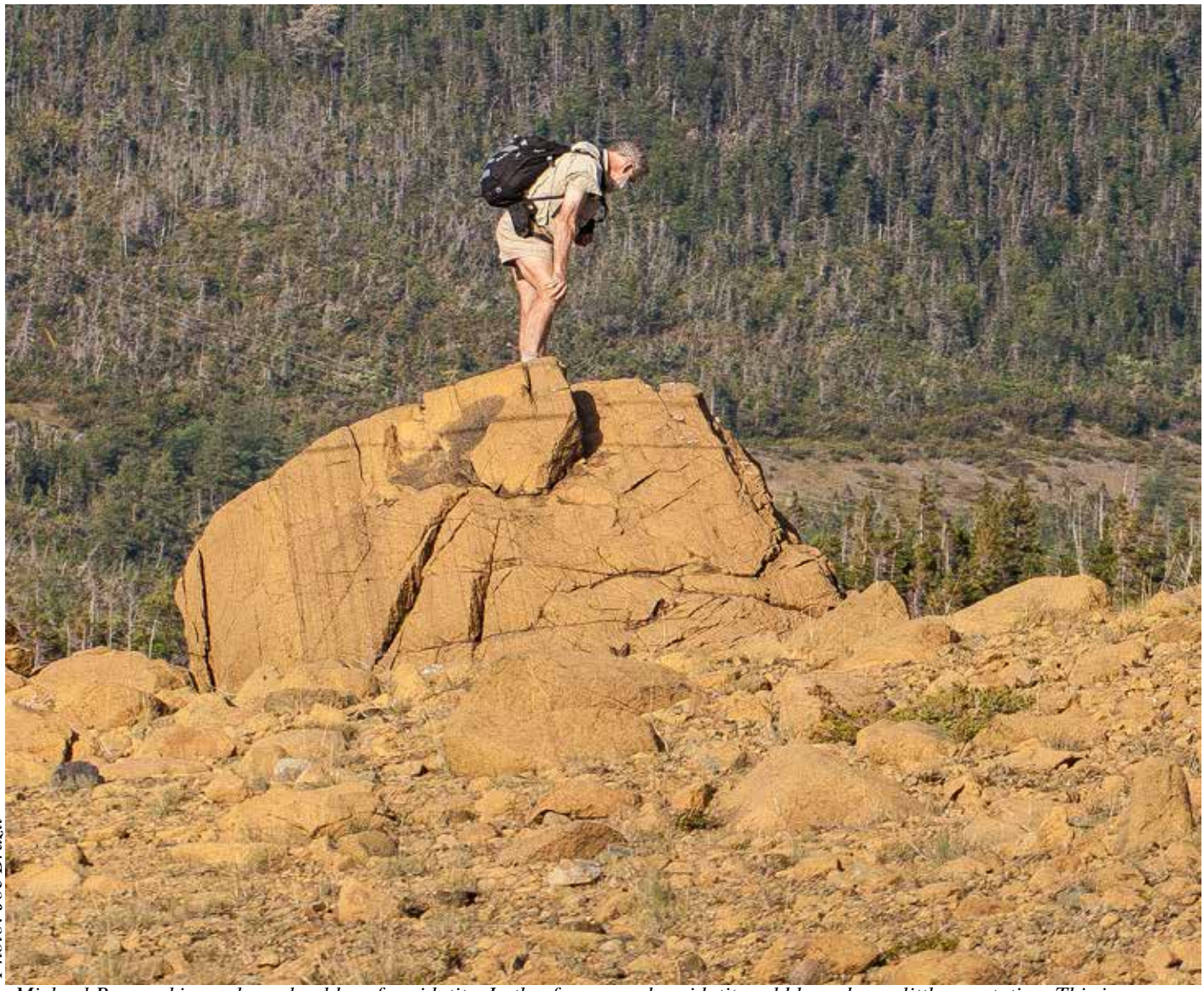


Photo: Joe Brazil

Michael Burzynski on a large boulder of peridotite. In the foreground peridotite rubble and very little vegetation. This is contrasted with a background of forest.

Photo: Joe Brazil

This one we called the Ghost lichen because the centre of the lichen was always absent and the only part visible was the younger ring. This was one of the two lichens consistently found on peridotite.

explored the flora and geology in the area; and Roger Smith for the second day who photographed the diversity and landscape. Over the course of two days more than 200 specimens were collected, which were obtained by chipping small pieces of rock with a hammer and chisel, scraping lichens from rock, bark, and soil, and sometimes having to carry larger rocks back for lichen identification. So far two species have been determined to be common on the peridotite rock while several other less frequent species are also present. Other lichens on different types of substrates were diverse and include over 70 species waiting for further confirmation. Explorations of the three other major serpentine mountains in the province are planned for the next three years including the Lewis Hills, the Blowmedowns, and the Gregory Plateau. By the end of four years we plan to have a better understanding of the lichens that can grow in these inhospitable conditions and will be able to compare our serpentine lichen flora with that of other serpentine areas in the world.

Russula griseascens

project update

Maria Voitk

You may remember that Omphalina 6(1) dealt with a global fungal survey using soil samples. One unexpected result of our contributions was to find no DNA of the common *Russula emetica* in our soil, but abundant samples close to *R. griseascens*, a species we had never identified before. After a review and some consultations and discussions, we concluded that perhaps until things get sorted out, we might be more correct to apply the name *R. griseascens* to what we had been calling *R. emetica* to date.

Well, up stepped Anna Bazzicalupo from BC, who has looked at the *R. emetica* complex in the Pacific Northwest, with an offer to study it here for a continental picture. She sent along vials of buffer to keep the DNA safe, and I agreed to collect specimens and harvest the gills for DNA. I collected these small, red, russulas with a white stem and very hot taste, before, during and after the foray. At the end of the season samples from 18 specimens were sent to Anna. All were from coniferous forests, but all had at least some birch in the vicinity. Their colour ranged from a very pale pink through a bright red to a duskier red. Some also showed tinges of violet, not evident on these photos. All were photographed, microscoped and dried. Andrus tells me that at least some of the pale ones, which we had called *R. aquosa*, had bigger spores, close to *R. sylvestris*, so we should find at least two species, possibly more.

Once Anna has results available, you shall get further updates.

Foray Fotos

Photos by : Andrus Voitk, Maria Voitk, Roger Smith, Michael Burzynski, Marian Wissink






TORAY











QUIDI VIZE
HONEY BROWN


PROPANE
EMERGENCY
SHUT OFF
VALVE

Program

Friday, September 25

11:00 Mycoblitz at Sir Richard Squires Memorial Provincial Park (turn off Highway 430, eight kilometres north west of Deer Lake).

2:00 Leave to drive to Killdevil Camp.

4:00 Sign-in desk opens at Killdevil Camp.

6:00 *Reception/Supper* begins

7:30 *Words From the President*

8:00 Simultaneous Talks:

- *Mushrooms 101*, Faye Murrin.
- *So Many Species, So Little Time: Fungal Biodiversity in the Great Smoky Mountains National Park*, Andrew Miller.

Saturday, September 26

8:00 Breakfast and announcements.
9:00 Foray teams leave for various trails.
12:00 Lunch on the trail.
1:00 Identifiers and databasers return to start identification and processing.
3:00 Foray teams return to sort, label, and identify specimens.
6:00 *Quidi Vidi QuuQup* (wild mushrooms and supper).
7:30 Short Talks:
- *A New Look at an Old Genus: Lactarius*, Andrew Methven
- *Mushroom Poetry*, Michel Savard
- *Exploring Fluorescent Fungi*, Greg Thorn and Michele Piercey-Normore

9:00 Lichen night hike

Sunday, September 27

8:00 Breakfast.
8:45 Group Photograph.
9:00 Specimen Tables and Workshops:

<table>
<tr><td>9:00 to 10:00</td><td>Tables with Andrus</td><td rowspan="2">Watercolour with Glynn Bishop (max. 10)</td><td rowspan="2">Cooking Wild Mushrooms with Jason Nesbitt (max. 12)</td><td rowspan="2">Let it Rot Walk with Nils Hallenberg (max. 14)</td></tr>
<tr><td>10:00 to 11:00</td><td>Tables with Michele</td></tr>
<tr><td>11:00 to 12:00</td><td>Tables with Andy Methven</td><td rowspan="2">Lichen Walk with Michele Piercey-Normore (max. 14)</td><td rowspan="2">Pick for the Pot with Michael and Anne (max. 12)</td><td rowspan="2"></td></tr>
<tr><td>12:00 to 1:00</td><td>Tables with Oluna</td></tr>
</table>

1:00 Lunch.
2:00 President's Thanks.
2:15 ***Annual General Meeting***.
3:00 Foray 2015 Concludes.

Workshops and Walks

Sunday morning was devoted to workshops, both indoors and out: Let it Rot walk, Pick for the pot, Lichen walk, Watercolour sketching, Cooking Wild Mushrooms, and, of course, Tables sessions. To get a flavour of what they were about, here are some "Reports" by some of the leaders and participants.

Watercolour Workshop
by Glynn Bishop

The watercolour workshop took place for the second year in the wonderful chapel that is tucked into the trees above the salt water inlet, and with the backdrop of Killdevil Mt. covered with a frosting of snow.

Participants were introduced to drawing and painting outdoors with all its challenges. Watercolour techniques and drawing tips were blended with a mixture of wildlife awareness and seeing, as opposed to looking.

The workshop concentrated on identification illustration, and note taking combined with colour rendering.

Photos: Michael Burzynski

Pick for the Pot—Success at Last!

by Michael Burzynski and Anne Marceau

After our dismal luck during Foray 2014, I am happy to report that we had a good *Pick for the Pot* this year. We had an enthusiastic group of thirteen participants, and we found a good range of species despite it being a bit late in the year for some of the mushrooms.

This *Pick for the Pot* was conducted in three stages: First we got together in the tent and looked at specimens of edible mushrooms that had already been collected. We discussed identifying characteristics, how to collect and clean mushrooms in the field, and how to avoid poisonous species.

Then we walked the trails, meadow, and forest in the vicinity of Killdevil Camp collecting the edible species that we came across. We were about a week late for the best crop of Edible Bolete (*Boletus edulis*), but there were still many that were good enough to pick. We also came across Orange Milkcap (*Lactarius deterrimus*), Field Waxcap (*Cuphophyllus pratensis*) and a large ring of Meadow Mushrooms (*Agaricus campestris*) in the field; In the forest we found Yellowlegs (*Craterellus tubaeformis*), Hedgehogs (*Hydnum repandum*), White Birch Bolete (*Leccinum holopus*), Gypsy (*Cortinarius caperatus*), and Bog Russula (*Russula paludosa*).

As the event drew to a close, we returned to the Camp and convened in the Meeting Hall to sort through all of the mushrooms that had been found. This was a chance to check that everyone had indeed collected only edible species, and that the mushrooms were still in good enough condition to eat (which gave us a chance to discuss the various insects, slugs, and mammals that also enjoy edible mushrooms). All in all, we had a successful and enjoyable event.

Photo: Michael Burzynski

Anne checking over mushrooms collected by participants, after the search.

Photo: Michael Burzynski

Lichen walk

Michele Piercey-Normore

The lichen walk took place along the first part of the Lomond trail. We had a small group of four people this year who had many questions about the biology of lichens and their natural products. As we walked, we discussed the interactions between the algal and fungal partners in lichens and how lichens use some of the natural products for their protection in nature. Our first encounter occurred just before we reached the trail - *Dibaeis baeomyces* was present as a pinkish-white carpet on the lawn where the grass had been removed and the soil was exposed. As we entered the forested trail, some of the beard lichens were hanging from tree branches, the yellow-green

Photos: Marian Wissink

beard lichens *Usnea* spp., *Alectoria sarmentosa*, and the brown horse-hair lichens *Bryoria* spp. Species differences among these lichens were discussed. We soon discovered several species of *Cladonia* either growing on the ground along the trail, at the base of trees, or on decaying logs such as *Cladonia ochrochlora, C. squamosa*, and *C. gracilis*. In some places the only evidence of lichen colonization were the tiny nondescript squamules of many *Cladonia* species but, while they completely covered the surface of some logs, they could not be differentiated at this stage of growth. We also discovered small patches of the leprose lichen (*Lepraria lobificans*), which is now known as *L. finkii*. This lichen forms a powdery mass that covers wood or soil. It is called the leprose lichen because the powdery layer brushes off easily when physically disturbed by animals. We also found some of the pin or stubble lichens that commonly inhabit standing de-barked stumps and sometimes are found on the bark itself. These are often included with the lichens but many of them are non-lichenized fungi and some are parasitic on lichens growing within the wood. As the walk came to an end we mingled with other groups in the forest reflecting on our findings.

Night hike

Michele Piercey-Normore and Greg Thorn

This year two back-to-back offerings of a night hike attracted about 36 people. The hikes were designed to highlight the ability of lichens and other fungi to fluoresce when exposed to ultraviolet light. We first provided a short presentation to explain fluorescence, what the human eye sees, and why lichens and other fungi fluoresce. This is very different from bioluminescence, the biological production of visible light, as in *Panellus stipticus* or the luminous dinoflagellates such as *Noctiluca*. A bioluminescent organism uses an enzyme in its cells to act on the chemical luciferin, releasing light (usually greenish-white) in the process. In contrast, fluorescence in lichens or other fungi is a result of the secondary metabolites within the lichen or fungus that absorb the ultraviolet light and reflect visible light of different colors. In our demonstration, we provided the UV light to stimulate fluorescence, using hand-held UV flashlights. In the daytime, the lichens presumably fluoresce under the UV of sunlight, but their fluorescent output would be totally swamped by daylight - so that's why we had to do a night hike. Our first demonstration was the stipe bands on a basidiomycete, *Cortinarius armillatus*. (Next year, we need to remember to set aside a fresh specimen of the deadly, blue-fluorescent *Cortinarius rubellus*.) We also demonstrated fluorescent colors from the lichens on a large rock that was carried back from a previous field trip. The lichens on the rock included a number of map lichens (*Rhizocarpon* spp.), *Lecidea* spp. and some small foliose lichens. These showed some yellows and purples when subjected to UV light. Then we walked to a big Red Maple tree in the front yard of Killdevil Camp. The trunk of the maple was colonized by many different lichens such as *Parmelia sulcata, Pertusaria macounii, Pertusaria amara, Ochrolechia androgyna*, and several *Lobaria* species. The *Pertusaria* spp. produced purple and pale red colors when exposed to the ultraviolet flashlight but the *Lobaria* and *Parmelia* species were not as striking and did not show fluorescence. The purple colors on the maple tree were from natural products such as xanthones in the *Pertusaria* spp. and the pale yellows on the rock were from rhizocarpic acid in the map lichen (*Rhizocarpon* spp.). After several expressions of awe we hiked to the back of the camp where a lichen *Dibaeis baeomyces* covered the ground. This lichen fluoresced an orange and bluish-white color, which is due to the natural products baeomycesic acid and squamatic acid reflecting light in those wavelengths. The night hike was a success and may reveal some new fluorescent colors next year. This is definitely an idea you can try at home - but remember to wear UV-protective eye-wear. The orange, UV-absorbing plastic safety glasses supplied by Michael Burzynski made some of the fluorescence much more obvious, as well as providing protection to the wearer's retinas from UV damage.

Photo: Maria Voitk

Foraging for the Kitchen
By Milly Brown

Foray 2015 was my first (but likely not my last) adventure in learning about the gastronomic delights of mushroom foraging. The pinnacle of the experience was standing in a cozy circle with my fellow fungi hunters around Jason Nesbitt as he made the most wonderful Japanese-style soup with a mouth-watering collection of local wild mushrooms, both fresh and dried. Jason's cooking style was part art, part magic, and the resulting potion transported me to another place—a happy, comfortable and satisfied one. He trusts his instincts, and encouraged us to do so as well, measuring in dollops, splashes and other intuitive quantities. That works for me, but I did take detailed notes to help me create similar soups in the future….

Wild Mushroom Soup & Dumplings, Japanese-Style (a Jason Nesbitt recipe)

Ingredients

Chopped onion or shallot, celery, carrot, fresh ginger root
Whole small hot chili pepper
Dried lobster mushrooms and morels, soaked overnight & drained, reserving liquid for soup
Variety of fresh mushrooms (chanterelles, orange milk mushrooms, hedgehogs, slippery Jacks)
Garlic oil (see recipe below)
Tawny sherry
Fresh lime, juice & peel
Mirin
Seasoned rice wine
Soy sauce
Chicken stock
Wonton wrappers
Beaten egg
Panko crumbs
Wild chive puree
Noodles, cooked al dente
Garnish: chopped fresh coriander & green onions

Preparation

In advance, prepare

- Chicken stock by simmering chicken pieces in water with a little salt.
- Garlic oil by roasting whole garlic cloves for 10 minutes at 400 degrees, then storing them in a mason jar with 60%/40% olive oil/vegetable oil, sea salt, peppercorns & rosemary.
- Rehydrated dried mushrooms by soaking overnight in water.

Sauté chopped onion, celery, carrots, ginger in sesame oil with a splash of garlic oil for around 5 minutes, then start adding mushrooms, starting with the densest rehydrated ones, then moister fresh ones, slowly adding each and letting juices evaporate as you go. Slice a chili pepper once vertically and toss it in whole so that you can pull it out if the soup seems spicy enough. Add about 1/3 cup sherry & keep cooking until mostly evaporated. Grate a little lime peel into pot. Add a few tablespoons each of seasoned rice wine & mirin, 1 tbsp soy sauce, and the juice of half a lime. Keep reducing liquid until mixture is almost dry & caramelized. Turn off heat & rest it for a few minutes. You can use this mixture immediately over rice or noodles, or go on to make dumplings & soup…

Dumplings

Take about a cup of the sautéed mixture & pulse in a blender to chop finely, but NOT puree, & let cool. Add a beaten egg, ¼ cup Panko crumbs, & season to taste if needed with more soy sauce, sesame, chili and/or lime juice. Moisten the edges of a wonton wrapper with water, put a teaspoon of filling in the centre, fold over diagonally & pinch edges to seal. Lay out filled wontons in a single layer on a baking sheet dusted with cornstarch. If desired for advance preparation, you can blanch the filled dumplings briefly in chicken stock, then brush them with oil and layer with parchment paper until you are ready to add them to the soup.

Soup

To the remaining sautéed mix, add chicken stock, return to heat, & bring to a boil. Add reserved mushroom liquid & keep simmering. Season to taste with more soy sauce, sesame, chili and/or lime juice as desired. Add al dente noodles to soup. Turn up heat, add filled dumplings, and bring to boil. Turn off heat and serve garnished with fresh coriander & a few dots of pureed wild chives.

Photos: Michael Burzynski

Photo: Michael Burzynski

Let it Rot Walk
with Nils Hallenberg

Photos: Marian Wissink

Tables
with Andrus, Michele, Andy and Oluna

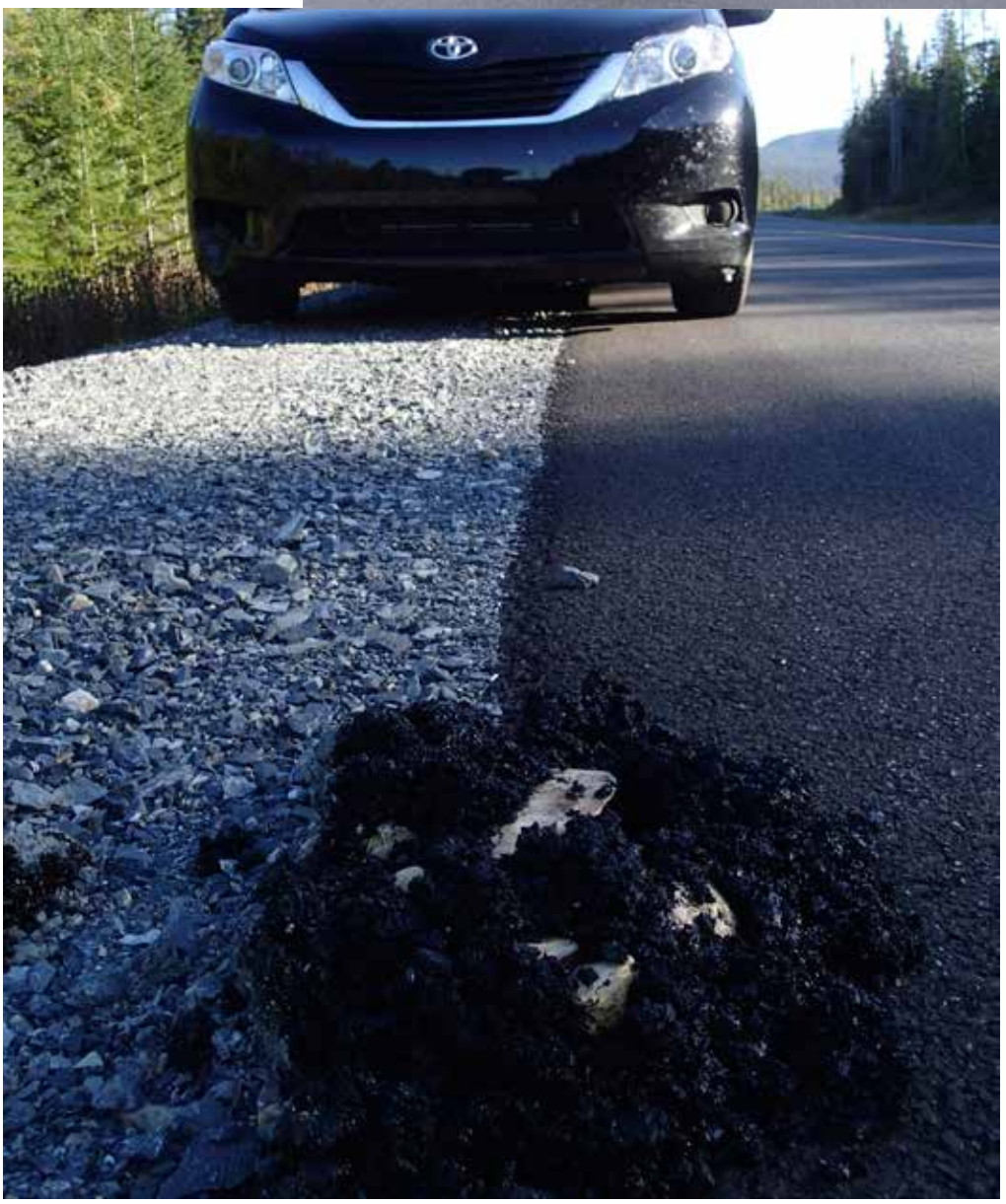
Photos: Marian Wissink

Photos: Michael Burzynski

Photo: Maria Voitk

Trail Finds

Photos: Michael Burzynski



Sidewalk mushroom Agaricus bitorquis bursting through four inches of fresh asphalt Route 431.

	Gros Morne Mountain	Lomond River Trail	Stuckless Pond Trail	Stanleyville Trail	Green Gardens Trail (Wallace Brook)	Trout River Pond Trail
Terrain	Moist coniferous forest, heath barren, tuckamore, rock barren, rock knob	Rich fen, mixed forest, riverside, insect- and wind-damaged forest, meadow, estuary	Mixed forest, coniferous forest, lakeside, meadow	Mixed forest, insect- and wind- damaged forest, meadow, seacoast	Peridotite barrens, riverside, coniferous forest, seacoast	Mixed forest, lakeside, peridotite barrens, travertine seeps
Difficulty: 1-easy; 5-tough	Beginning of trail- 2 Entire trail- 5	Beginning of trail- 2 Entire trail- 3	Beginning of trail- 2 Entire trail- 3	3	Beginning of trail- 2 Entire trail- 4	Beginning of trail-2 Entire trail- 3
Productivity 1-low; 5-high	5	4	4	3	3	3
Points of Interest	Brook and rich forest understory	River and estuary; unusually diverse forest	Old logging trail, mature conifers	Route to the area's first lumber mill; limestone cliffs	Differences between vegetation of serpentine and normal soils	Glacial trough lake (a former fjord); views of the Tablelands
Length (km) See note below	16 km (loop)	6 km (one way)	9.5 km (loop)	4 km (return)	9 km (return)	14 km (return)
Start	GM Trail parking lot	LR Trail parking lot	LR Trail parking lot	Lomond Campground, Day-use-area parking lot	GG Trail, Wallace Brook parking lot	Trout River Pond Day-use-area parking lot
Leader	Jamie Graham	Helen Spencer	Marian Wissink	Jessica Butler	Anne Marceau	Maria Voitk
Databaser	Michael Burzynski	Tony Wright	Claudia Hanel	Roger Smith	Chris Deduke	Shane White
Mycologist	Nils Hallenberg	Andy Methven	Andy Miller	Greg Thorn	Oluna Ceska	Andrus Voitk
Other	Faye Murrin			Michele Piercey-Normore		

Trail sign-up sheets will be posted during Registration on Friday. Please put your name on a trail that you would like to do. Note the limit of ten participants (including leaders) per trail.

SPECIES LIST

DISTRIBUTION BY FORAY TRAIL

Non-lichenized fungi, basidiolichens and myxomycetes

Andrus Voitk, Michael Burzynski, Tony Wright
with major input from the faculty

Trails

KD = Killdevil grounds
LR = Lomond River Trail
SV = Stanleyville Trails
ST = Stuckless Pond Trail
TR = Trout River Pond Trail + Trout River Head Trail
GG = Green Gardens Trail (Long Pond entrance)
BH = Burnt Hill, Norris Point
LC = Lobster Cove Head lighthouse grounds & trails
GM = trail to Gros Morne Mountain
WB = Western Brook Pond Trails

BL = Big Level, GMNP
SRS = Sir Richard Squires Memorial Provincial Park,
O/U = other or unknown site
TOT column lists the number of collections of a species. Remaining columns—same information for each trail. NB: number of collections approximate indicator of abundance. Comparison of trails not valid, because all not sampled equally.

BLUE = surveyed by foray only
YELLOW = surveyed by Faculty only
GREEN = surveyed by both Faculty and Foray

Background: Spores of *Entomophthora muscae* on windowpane of Lobster Cove Head Lighthouse.

This species is the poster boy of our 2015 list—see discussion under **What do these data mean**? This is a very fascinating fungal species, and we very strongly encourage you to look it up on Tom Volk's Fungus of the Month series: <http://botit.botany.wisc.edu/toms_fungi/mar2000.html>.

Photo: Michael Burzynski

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Agaricus bitorquis	**1**		1											
Agaricus campestris	**2**	1							1					
Aleurodiscus amorphus	**4**			1		1			1				1	
Alloclavaria purpurea	**1**							1						
Amanita bisporigera	**4**		2	1	1									
Amanita flavoconia	**3**					1		1					1	
Amanita fulva	**1**					1								
Amanita muscaria var. *guessowii*	**12**	1	2			1	2	2	1				2	1
Amanita porphyria	**4**		1							2			1	
Amphinema byssoides	**9**				1	1			4		1	1	1	
Ampulloclitocybe clavipes	**5**							2		2	1			
Antrodia heteromorpha	**5**		2	1		1				1				
Antrodiella canadensis	**1**			1										
Antrodiella hoehnelii	**1**									1				
Armillaria ostoyae	**3**		3											
Arrhenia acerosa	**1**	1												
Ascocoryne cylichnium	**2**				1								1	
Ascocoryne turficola	**1**										1			
Asterophora parasitica	**1**								1					
Athelicium sp 1	**1**								1					
Atheniella adonis	**1**										1			
Auricularia americana	**2**		1	1										
Austroboletus gracilis	**4**		1			1	2							
Bankera violascens	**2**					1				1				
Basidiodendron caesiocinereum	**1**									1				
Basidioradulum radula	**7**				1	3			2	1				
Biscogniauxia repanda	**1**				1									
Bisporella citrina	**4**		1			1							2	
Bjerkandera adusta	**2**		1										1	
Bogbodia uda	**1**												1	
Boletus edulis	**4**					1		2					1	
Boletus subtomentosus f. *gracilis*	**2**		1										1	
Botryobasidium subcoronatum	**1**		1											
Botryobasidium vagum	**1**										1			
Botryohypochnus isabellinus	**1**										1			
Bovista pila	**1**												1	
Brevicellicium exile	**1**								1					
Camarophyllopsis foetens	**1**	1												
Cantharellus sp. NL	**6**							5	1					
Catathelasma ventricosum	**5**							2	1				2	
Ceraceomyces borealis	**1**					1								

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Ceraceomyces microsporus	**2**									1	1			
Chaetosphaeria longiseta	**1**												1	
Chlorociboria aeruginascens	**1**												1	
Chlorociboria aeruginosa	**2**					1				1				
Chondrostereum purpureum	**1**				1									
Chrysomphalina chrysophylla	**1**									1				
Cinereomyces lindbladii	**1**								1					
Clavaria amoenoides	**2**		1										1	
Clavaria argillacea	**2**											2		
Clavaria fusiformis	**1**	1												
Clavaria rubicundula	**1**	1												
Clavaria tenuipes	**1**											1		
Clavaria vermicularis	**1**												1	
Clavulina coralloides	**12**	1	3	1	1	2			1		1	1	1	
Clitocybe candicans	**1**										1			
Clitocybe dealbata	**1**	1												
Clitocybula familia	**1**			1										
Clitopilus prunulus	**1**							1						
Collybia tuberosa	**4**						2	2						
Coltricia perennis	**3**												3	
Conferticium ochraceum	**1**								1					
Coniochaeta velutina	**2**												2	
Coniophora arida	**1**						1							
Coniophora puteana	**2**					2								
Conocybe juniana	**1**													1
Coprinus comatus	**4**												3	1
Cortinarius acutus	**8**			2	1	1		2			2			
Cortinarius alboviolaceus	**4**					3							1	
Cortinarius anomalus	**1**					1								
Cortinarius armillatus	**18**	1	6	1	2	3				1			4	
Cortinarius bivelus	**1**												1	
Cortinarius bolaris	**2**					2								
Cortinarius camphoratus	**10**		3	1		1	1	1		1			2	
Cortinarius caperatus	**6**				1		1	1				1	2	
Cortinarius cinnamomeus	**6**					1		1	1		1		2	
Cortinarius collinitus	**3**							1				1	1	
Cortinarius croceus	**1**											1		
Cortinarius evernius	**5**		1	1					1			2		
Cortinarius flexipes	**1**										1			
Cortinarius fragrans	**1**												1	
Cortinarius gentilis	**2**							1		1				

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Cortinarius huronensis	**4**					1				1		1	1	
Cortinarius incognitus	**2**									1			1	
Cortinarius limonius	**1**									1				
Cortinarius malicorius	**2**									1				1
Cortinarius pholideus	**1**												1	
Cortinarius rubellus	**7**					1		3	2	1				
Cortinarius stillatitius	**3**			1		2								
Cortinarius traganus	**7**	1		1	2					1			2	
Cortinarius trivialis	**3**												3	
Cortinarius uliginosus	**2**					1						1		
Cortinarius varius	**1**												1	
Cortinarius vibratilis	**2**		1			1								
Craterellus tubaeformis	**19**	1	3		2	5	1	1	3	1	1	1		
Crucibulum laeve	**1**												1	
Cudonia circinans	**1**												1	
Cudonia lutea	**1**					1								
Cuphophyllus borealis	**3**		1			2								
Cuphophyllus lacmus	**1**					1								
Cuphophyllus pratensis	**6**	1	1										3	1
Cystoderma amianthinum	**2**					1				1				
Cytidia salicina	**1**					1								
Dacrymyces chrysospermus	**13**		2		2		1		3	2	1		2	
Elaphocordyceps ophioglossoides	**1**												1	
Elaphomyces muricatus	**1**								1					
Encoelia furfuracea	**1**					1								
Entoloma cuniculorum	**1**											1		
Entoloma incanum	**1**	1												
Entoloma luridum	**2**	1					1							
Entoloma quadratum	**4**	1		1		2								
Entomophthora muscae	**1**	1												
Exidiopsis calcea	**1**								1					
Flavophlebia sulphureoisabellina	**1**								1					
Fomes fomentarius	**7**		2				1						4	
Fomitopsis ochracea	**4**		1	1						1			1	
Fomitopsis pinicola	**6**		3	1	1								1	
Fuligo septica	**2**							2						
Galerina hybrida	**1**										1			
Galerina paludosa	**1**										1			
Galerina vittiformis f. *bispora*	**1**									1				
Ganoderma applanatum	**2**									1			1	
Gliophorus laetus var. flavus	**1**		1											

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Gloeocystidiellum porosum	**1**									1				
Gloeophyllum protractum	**1**		1											
Gloeophyllum sepiarium	**12**		1	1	1		2	1		1	2		3	
Gloiothele citrina	**1**								1					
Gloioxanthomyces nitidus	**1**												1	
Gomphidius maculatus	**1**						1							
Gomphus clavatus	**1**								1					
Gymnopilus junonius	**1**			1										
Gymnopilus picreus	**2**										2			
Gymnopilus sapineus	**4**		2	1	1									
Gymnopus dryophilus	**1**		1											
Gymnosporangium cornutum	**1**					1								
Hapalopilus nidulans	**2**										1		1	
Harrya chromapes	**1**	1												
Hebeloma candidipes	**1**												1	
Hebeloma geminatum	**1**												1	
Helminthosphaeria clavariarum	**1**												1	
Helvella lacunosa	**6**	2							2				2	
Helvella macropus	**1**	1												
Hemimycena gracilis	**1**			1										
Henningsomyces candidus	**2**			1					1					
Hydnellum caeruleum	**1**		1											
Hydnellum multiceps	**1**		1											
Hydnellum peckii	**1**			1										
Hydnellum pineticola	**1**	1												
Hydnellum scrobiculatum	**4**			1						3				
Hydnum repandum	**6**		1			2	1					1	1	
Hydnum repandum var. *album*	**1**		1											
Hydnum rufescens	**3**		1							1			1	
Hydnum umbilicatum	**14**		2		2	5				1		2	1	1
Hygrocybe acutoconica	**6**	1				1						1	3	
Hygrocybe cantharellus	**10**		2	3		1					2		2	
Hygrocybe conica	**4**	1										1	1	1
Hygrocybe miniata	**3**		1									1	1	
Hygrocybe phaeococcinea	**3**	1											1	1
Hygrocybe punicea	**1**						1							
Hygrocybe tahquamenonensis	**1**		1											
Hygrocybe turunda	**2**					1					1			
Hygrophorus chrysodon	**1**						1							
Hymenochaete fuliginosa	**2**								1	1				
Hyphoderma setigerum	**4**					1			1	1	1			

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Hyphoderma sibiricum	**1**									1				
Hyphodontia arguta	**1**								1					
Hyphodontia borealis	**1**									1				
Hyphodontia breviseta	**3**	1				1					1			
Hypholoma capnoides	**1**												1	
Hypholoma elongatum	**2**									1			1	
Hypholoma marginatum	**1**										1			
Hypochnicium cremicolor	**1**					1								
Hypochnicium punctulatum	**2**					1						1		
Hypomyces chrysospermus	**2**					1		1						
Hypomyces hyalinus	**3**					1		2						
Hypomyces lateritius	**3**			2					1					
Hypoxylon fuscum	**1**										1			
Immersiella immersa	**1**				1									
Inocybe geophylla	**19**	1		2		1	1	2	6		1		4	1
Inocybe lanuginosa	**2**			1					1					
Inocybe lilacina	**4**												4	
Inocybe phaeodisca	**1**												1	
Inocybe splendens	**1**												1	
Inocybe stellatospora	**1**												1	
Inonotus obliquus	**2**												2	
Jahnoporus hirtus	**3**			1		1					1			
Kavinia alboviridis	**1**										1			
Kirschsteiniothelia aethiops	**2**				2									
Kneiffiella abieticola	**2**										1		1	
Laccaria bicolor	**8**				1			1		2	2	1	1	
Laccaria laccata	**3**											2	1	
Lachnum sulphurellum	**1**		1											
Lachnum virgineum	**1**											1		
Lacrymaria lacrymabunda	**1**												1	
Lactarius affinis	**3**											1	2	
Lactarius aspideoides	**1**					1								
Lactarius camphoratus	**21**	1	5	2		4		2	4	1	1		1	
Lactarius deceptivus	**18**	2	2	3						2			9	
Lactarius deterrimus	**21**		1		1	5	2		5	1	2		3	1
Lactarius glyciosmus	**10**									4		2	4	
Lactarius griseus	**1**				1									
Lactarius helvus	**1**												1	
Lactarius hibbardiae	**5**												5	
Lactarius hysginus	**1**													1
Lactarius lignyotus var. *canadensis*	**8**		1			2			1	1		1	1	1

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Lactarius lignyotus var. *lignyotus*	**1**				1									
Lactarius lignyotus var. *nigroviolascens*	**1**											1		
Lactarius mucidus	**2**					1				1				
Lactarius oculatus	**1**					1								
Lactarius pubescens	**1**		1											
Lactarius repraesentaneus	**1**									1				
Lactarius resimus	**3**											1	2	
Lactarius scrobiculatus var. *canadensis*	**2**						1		1					
Lactarius sordidus	**1**						1							
Lactarius tabidus	**3**		1			1				1				
Lactarius thyinos	**20**		3	2	2	2		3	4	2			1	1
Lactarius torminosus	**5**	1				1							2	1
Lactarius uvidus	**1**												1	
Lactarius vietus	**2**		1										1	
Lactarius vinaceorufescens	**12**		2	1	1	3		1		1			3	
Lasiosphaeria ovina	**1**					1								
Leccinum holopus	**18**		5	1	1	3	2			1			5	
Leccinum rotundifoliae	**3**											3		
Leccinum scabrum	**12**		2		2			2		1			4	1
Leccinum vulpinum	**9**		1						1	1			6	
Leotia lubrica	**11**		1	1	1	2			4	2				
Leotia viscosa	**8**		3		1	3				1				
Lepiota cristata	**2**	2												
Leucoagaricus leucothites	**1**	1												
Lichenomphalia alpina	**1**											1		
Lichenomphalia hudsoniana	**5**											5		
Lichenomphalia umbellifera	**5**											5		
Lophium mytilinum	**1**												1	
Lycogala epidendrum	**1**									1				
Lycoperdon nigrescens	**1**											1		
Lycoperdon perlatum	**7**			1				3	1	1			1	
Lycoperdon pyriforme	**10**		1	1								1	6	1
Lycoperdon umbrinum	**2**						1		1					
Lyophyllum decastes	**2**	2												
Lyophyllum fumosum	**1**								1					
Marasmiellus perforans	**1**			1										
Melanoleuca brevipes	**2**							1					1	
Melanoleuca melaleuca	**2**	1											1	
Melanomma pulvis-pyrius	**1**				1									
Melanospora caprina	**1**												1	

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Merismodes anomala	**1**										1			
Merismodes fasciculata	**1**					1								
Microglossum rufum	**1**								1					
Mollisia cinerea	**1**												1	
Mycena concolor	**2**				2									
Mycena galericulata	**1**					1								
Mycena leptocephala	**1**										1			
Mycena niveipes	**1**										1			
Mycena pura	**2**								2					
Neocudoniella albiceps	**4**		1		1					2				
Neolecta irregularis	**1**	1												
Omphalina oreades	**9**											9		
Onnia tomentosa	**1**												1	
Onygena equina	**1**								1					
Otidea onotica	**1**			1										
Panellus stipticus	**2**					1					1			
Paxillus involutus	**8**			1						2	2		3	
Peniophora cinerea	**2**										2			
Peniophora erikssonii	**2**					2								
Peniophora rufa	**1**												1	
Peniophorella pubera	**2**					1			1					
Peziza badia	**2**	1		1										
Peziza brunneoatra	**1**			1										
Peziza praetervisa	**1**		1											
Peziza vesiculosa	**1**						1							
Phaeolus schweinitzii	**4**	2									1			1
Phellinus chrysoloma	**1**								1					
Phellinus ferreus	**1**					1								
Phellinus ferruginosus	**1**									1				
Phellinus laevigatus	**2**					1					1			
Phellinus viticola	**2**					1		1						
Phellodon niger var. *niger*	**1**	1												
Phellodon tomentosus	**1**	1												
Phlebia radiata	**2**								1		1			
Phlebia subserialis	**1**										1			
Phlebiella tulasnelloidea	**1**										1			
Phlebiella vaga	**2**								1	1				
Pholiota astragalina	**1**			1										
Pholiota limonella	**1**	1												
Pholiota malicola	**1**										1			
Phyllotopsis nidulans	**1**												1	

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Piloderma byssinum	**2**												2	
Piptoporus betulinus	**11**			2	1		1			1	1		5	
Pleurocybella porrigens	**3**	1	2											
Plicatura nivea	**2**					1					1			
Plicaturopsis crispa	**2**					2								
Pluteus plautus	**1**										1			
Pluteus podospileus	**1**					1								
Podophacidium xanthomelum	**1**								1					
Polyporus badius	**1**								1					
Polyporus varius	**2**			2										
Postia caesia	**4**				1	1			1				1	
Postia fragilis	**2**		2											
Postia ptychogaster	**1**							1						
Postia stiptica	**1**										1			
Protostropharia alcis	**6**		1						1				4	
Psathyrella conissans	**1**												1	
Psathyrella piluliformis	**1**			1										
Pseudohydnum gelatinosum	**7**		1					1	5					
Puccinia poarum	**2**							1			1			
Radulomyces confluens	**1**					1								
Ramaria aurea	**1**												1	
Ramaria flaccida	**1**			1										
Ramaria flavicingula	**3**	1	1		1									
Ramaria flavobrunnescens	**2**			2										
Ramaria pallida	**4**		1	2					1					
Ramaria suecica	**1**			1										
Ramariopsis crocea	**1**												1	
Resinicium bicolor	**2**								1		1			
Rhodocollybia maculata	**1**	1												
Rhodocollybia maculata var. *scorzonerea*	**1**											1		
Rickenella fibula	**6**						1		2	2	1			
Roseodiscus subcarneus	**2**		1	1										
Russula adusta	**5**			1						1			3	
Russula aeruginosa	**1**							1						
Russula aquosa	**2**		1						1					
Russula brevipes	**4**					1		2		1				
Russula claroflava	**1**					1								
Russula compacta	**1**						1							
Russula decolorans	**1**											1		
Russula densifolia	**2**					2								

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Russula griseascens	**8**		1		1	1				2	1		2	
Russula laurocerasi	**1**								1					
Russula paludosa	**7**		1			1			1	1		2	1	
Russula peckii	**13**		2	2	1	1		1	2			1	2	1
Russula puellaris	**1**					1								
Russula variata	**3**		1										1	1
Sarcodon imbricatus	**2**			1						1				
Sarcodon stereosarcinon	**4**	2	1	1										
Scopuloides rimosa	**1**								1					
Scytinostroma jacksonii	**2**							2						
Sebacina epigaea	**1**								1					
Sebacina incrustans	**1**								1					
Sidera lenis	**1**					1								
Sistotrema confluens	**1**									1				
Skeletocutis subincarnata	**4**					1				1			2	
Sphaerobolus stellatus	**1**								1					
Sporormiella dubia	**1**												1	
Stereum hirsutum	**2**										2			
Stereum rugosum	**2**					1				1				
Stereum sanguinolentum	**7**		1		1	1			2		1		1	
Suillus cavipes	**10**					1	3						6	
Suillus clintonianus	**9**				2		1						5	1
Suillus glandulosus	**2**					1							1	
Suillus grevillei	**9**				2		4				1		2	
Suillus grisellus	**1**										1			
Suillus paluster	**2**					1	1							
Suillus serotinus	**4**				2		1							1
Suillus spectabilis	**5**						2				2		1	
Suillus spraguei	**1**				1									
Taphrina robinsoniana	**3**					2					1			
Thelephora palmata	**3**							2	1					
Tomentella umbrinospora	**2**								1		1			
Tomentellopsis echinospora	**1**											1		
Trametes ochracea	**1**												1	
Trametes versicolor	**3**					3								
Trechispora confinis	**1**								1					
Trechispora farinacea	**4**								1	1	1	1		
Trechispora mollusca	**3**						1					1	1	
Trechispora subsphaerospora	**1**												1	
Tremella foliacea	**2**		1		1									
Tremella mesenterica	**1**					1								

TAXON	TOT	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Tremiscus helvelloides	**1**								1					
Trichaptum abietinum	**4**				1		1			1			1	
Trichaptum fuscoviolaceum	**2**										2			
Trichaptum laricinum	**4**		1	1	1					1				
Trichaptum subchartaceum	**1**												1	
Trichodelitschia bisporula	**1**		1											
Tricholoma apium	**1**			1										
Tricholoma aurantium	**1**				1									
Tricholoma pessundatum	**1**							1						
Tricholoma saponaceum	**2**							2						
Tricholoma subluteum	**1**					1								
Tricholoma subsejunctum	**2**							1					1	
Tricholoma transmutans	**6**					2			1	2				1
Tricholoma vaccinum	**5**					3				1			1	
Tricholoma virgatum	**1**							1						
Tricholomopsis sulphureoides	**1**					1								
Tubaria furfuracea	**2**												2	
Tubulicrinis glebulosus	**1**										1			
Tubulicrinis subulatus	**3**								1		2			
Turbinellus floccosus	**5**				1	2		2						
Tylopilus felleus	**1**												1	
Tyromyces chioneus	**3**						1			1			1	
Uredinopsis americana	**1**					1								
Xanthoporia radiata	**2**									2				
Xerocomus badius	**2**											1	1	
Xeromphalina sp.	**5**		1	2	1	1								
Xylodon asperus	**5**					1					1	1	2	
Xylodon borealis	**1**					1								
Xylodon nespori	**1**								1					
Zignoëlla ovoidea	**1**												1	
Total collections	**1159**	48	116	72	60	149	46	69	109	92	76	66	234	22
Total taxa	**397**	42	75	57	48	102	34	43	73	74	64	42	132	22
TAXON	**TOT**	**KD**	**LR**	**SV**	**ST**	**TR**	**GG**	**BH**	**LC**	**GM**	**WB**	**BL**	**SRS**	**O/U**

	KD	LR	SV	ST	TR	GG	BH	LC	GM	WB	BL	SRS	O/U
Taxa	42	75	57	48	102	34	43	73	74	64	42	132	22
Collections	48	116	72	60	149	46	69	109	92	76	66	234	22

Dead Cluster Fly infected with Entomophthora muscae.

What do these data mean?

Andrus Voitk

Lobster Cove Head Lighthouse

Photo: Roger Smith

The full-page photos introducing the list and this interpretation are purposely selected for their aptness. The first shows, somewhat vaguely, spores of an entity whose existence has escaped the awareness of most people, including those with a keen interest in fungi. It is the poster boy of our new species for 2015, a change that has been happening for the last few years. The 2013 data interpretation said, "**The list of new species … contains relatively few of the large fleshy mushrooms that we think of as "normal" mushrooms.**" In 2014 the same analysis stated, "**After 10 years of surveying various regions of the province with both small and large forays, we may have uncovered most of the macrofungi in the province.**" Table 1 compares our new species to the same number of species arranged in decreasing abundance of collections. How many names in the column of new species do you recognize? Or, better, how many of the names convey even the vaguest of meaning to you? Now, how many names in the column of common species do you recognize? Even if this was your first foray, some of those names will be familiar to you, and you will recognize several more, even if you may not be entirely certain you actually know their owners. In other words, although our species list continues to rise (Figure 1), new species now come from outside the experience of most of us.

Reviewing the new species reveals that a large proportion is contributed by subspecialists. Over 30 new species were corticioid fungi identified by Nils Hallenberg. The contribution of Nils to our new species would have been more than twice as big, had he not attended our foray in 2012: another 30-40 polypores and corticioids that he identified this time, he first identified in 2012. And in 2012 we noted that had Leif Ryvarden not been here the year before, Nils' contribution at that time would have been much larger. Another 10 new species were pyrenomycetes (the "little

Table 1. Comparison of NEW species and COMMON species, Foray 2015

NEW species	Common species in decreasing order of commonness	NEW species	Common species in decreasing order of commonness
Antrodiella canadensis	*Lactarius camphoratus*	*Lacrymaria lacrymabunda*	*Lycoperdon perlatum*
Antrodiella hoehnelii	*Lactarius deterrimus*	*Lasiosphaeria ovina*	*Pseudohydnum gelatinosum*
Athelicium sp 1	*Lactarius thyinos*	*Lophium mytilinum*	*Russula paludosa*
Biscogniauxia repanda	*Craterellus tubaeformis*	*Melanoleuca brevipes*	*Stereum sanguinolentum*
Botryohypochnus isabellinus	*Inocybe geophylla*	*Melanomma pulvis-pyrius*	*Cantharellus* sp. NL
Brevicellicium exile	*Cortinarius armillatus*	*Melanospora caprina*	*Cortinarius caperatus*
Camarophyllopsis foetens	*Lactarius deceptivus*	*Mycena niveipes*	*Cortinarius cinnamomeus*
Chaetosphaeria longiseta	*Leccinum holopus*	*Neocudoniella albiceps*	*Cuphophyllus pratensis*
Chrysomphalina chrysophylla	*Hydnum umbilicatum*	*Omphalina oreades*	*Fomitopsis pinicola*
Clavaria amoenoides	*Dacrymyces chrysospermus*	*Peziza brunneoatra*	*Helvella lacunosa*
Clavaria fusiformis	*Leccinum scabrum*	*Peziza vesiculosa*	*Hydnum repandum*
Clavaria rubicundula	*Russula peckii*	*Phlebia radiata*	*Hygrocybe acutoconica*
Clavaria tenuipes	*Amanita muscaria* var. *guessowii*	*Phlebia subserialis*	*Rickenella fibula*
Conferticium ochraceum	*Clavulina coralloides*	*Phlebiella tulasnelloidea*	*Protostropharia alcis*
Coniochaeta velutina	*Gloeophyllum sepiarium*	*Pholiota malicola*	*Tricholoma transmutans*
Conocybe juniana	*Lactarius vinaceorufescens*	*Piloderma byssinum*	*Ampulloclitocybe clavipes*
Cudonia lutea	*Leotia lubrica*	*Pluteus plautus*	*Antrodia heteromorpha*
Entoloma cuniculorum	*Piptoporus betulinus*	*Pluteus podospileus*	*Catathelasma ventricosum*
Entomophthora muscae	*Cortinarius camphoratus*	*Ramaria aurea*	*Cortinarius evernius*
Exidiopsis calcea	*Hygrocybe cantharellus*	*Ramaria flavicingula*	*Lactarius hibbardiae*
Flavophlebia sulphureoisabellina	*Lactarius glyciosmus*	*Ramaria suecica*	*Lactarius torminosus*
Galerina hybrida	*Lycoperdon pyriforme*	*Roseodiscus subcarneus*	*Lichenomphalia hudsoniana*
Galerina vittiformis f. *bispora*	*Suillus cavipes*	*Russula aeruginosa*	*Lichenomphalia umbellifera*
Gliophorus laetus var. *flavus*	*Amphinema byssoides*	*Scopuloides rimosa*	*Russula adusta*
Hebeloma candidipes	*Leccinum vulpinum*	*Scytinostroma jacksonii*	*Suillus spectabilis*
Hydnum repandum var. *album*	*Omphalina oreades*	*Sebacina epigaea*	*Tricholoma vaccinum*
Hygrocybe tahquamenonensis	*Suillus clintonianus*	*Sebacina incrustans*	*Turbinellus floccosus*
Hyphodontia borealis	*Suillus grevillei*	*Sporormiella dubia*	*Xeromphalina* sp.
Hypochnicium cremicolor	*Cortinarius acutus*	*Tomentella umbrinospora*	*Xylodon asperus*
Hypochnicium punctulatum	*Laccaria bicolor*	*Tomentellopsis echinospora*	*Aleurodiscus amorphus*
Immersiella immersa	*Lactarius lignyotus* var. *canadensis*	*Trechispora mollusca*	*Amanita bisporigera*
Inocybe phaeodisca	*Leotia viscosa*	*Trechispora subsphaerospora*	*Amanita porphyria*
Inocybe splendens	*Paxillus involutus*	*Trichodelitschia bisporula*	*Bisporella citrina*
Kavinia alboviridis	*Russula griseascens*	*Tricholoma subluteum*	*Boletus edulis*
Kirschsteiniothelia aethiops	*Basidioradulum radula*	*Tubulicrinis subulatus*	*Collybia tuberosa*
Kneiffiella abieticola	*Cortinarius rubellus*	*Xylodon borealis*	*Coprinus comatus*
Lachnum sulphurellum	*Cortinarius traganus*	*Xylodon nespori*	*Cortinarius alboviolaceus*
Lachnum virgineum	*Fomes fomentarius*	*Zignoëlla ovoidea*	*Cortinarius huronensis*

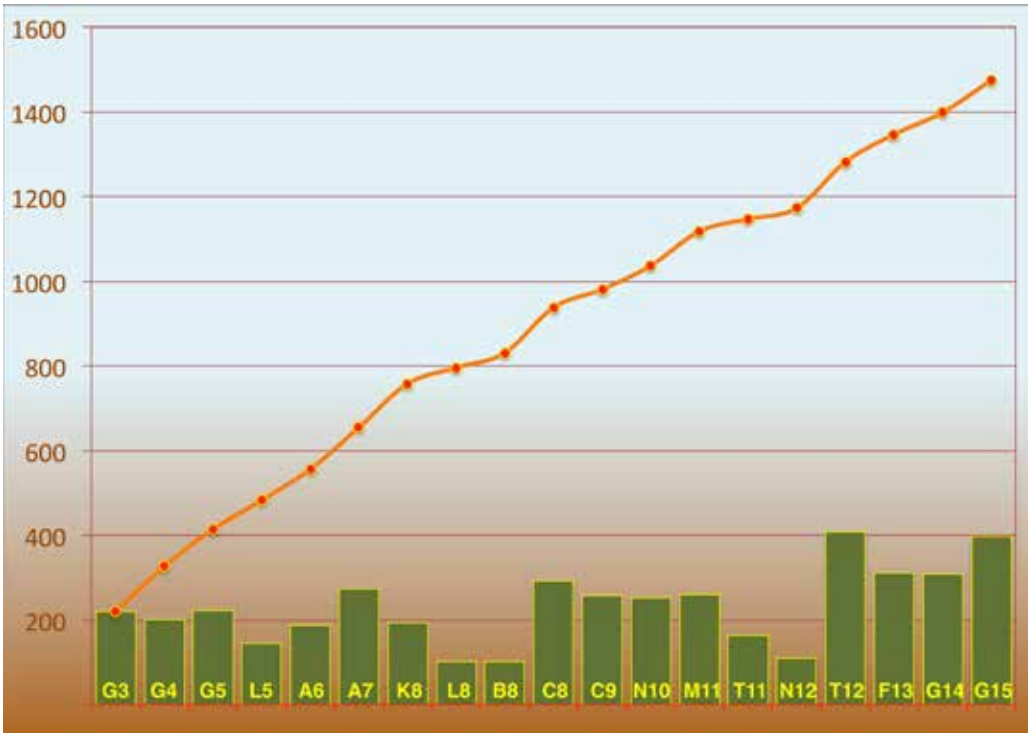


***Figure 1**. Orange line is the cumulative new species list over the years of forays. Green bars represent the number of species collected per foray (not all are comparable). The steady rise of the orange line, with no sign of levelling off, suggests that at nearly 1,500 species we are nowhere near having recovered most of our species. However, as the text makes clear, most of the obvious macrofungi may be identified. Additional species will be recovered among less familiar groups of fungi, or after phylogenetic study of large common groups. The number of "typical mushroom" species in the province may be less than 2,000.*

black dots") contributed by Andy Miller. In both cases, most of these collections were also made by the same identifiers. Thus, clearly there are large groups of fungi that are not familiar to us. This is not to say that our generalist identifiers could not have identified these species, but first, they are so unfamiliar to us that we do not even collect them, and second, even were we to bring some in, our identifiers are so busy with more collections than they can handle, that additional material would likely have to be left fallow.

Now, you may notice that you recognize several members of the genera *Clavaria* and *Ramaria* in the list of new species. Indeed, this is so, but review suggests that some old species may have had different names applied this time. We shall encounter this again—new names, but not necessarily new species. Since then several ramarias have been sequenced, but **to sort them out is a thesis project. Any takers?**

The above aside, the new species list does not include any species from the large, common genera. We have 152 species of *Cortinarius* on our cumulative list and identified 26 species this year, but none new. Similarly, look at *Amanita*, *Entoloma*, *Lactarius*, *Russula* or *Tricholoma*. Some of these genera do have a single representative on the new list, but again in several cases it is a matter of a mushroom that we have identified by another name in the past—new name, not necessarily new species. While we try to eliminate synonymy, when we cannot be certain, we prefer to let an additional name stand until more detailed investigations settle the issue. Where our identifications have been imprecise, several names may have been used for the same entity. In addition to the clavarias, for examples, see Figure 2, or the *Russula griseascens* survey update elsewhere in this issue.

The most interesting case is that of *Lactarius*, a large genus where we had a specialist present. Surely that should have brought out new species? Well, apparently not. *Lactarius* is far more familiar to us than *Kirschsteiniothelia*, *Scytinostroma* or *Zignöella*, so we are likely to have collected and identified far more species of *Lactarius* over the years than of the other three. Does this mean that we have identified all our species of *Lactarius*, and by extension, other common, fleshy fungi? Not likely. But our ability to be more accurate with morphologic methodology, backed by available classical descriptions, is limited. These large genera and the exact species of them that we have here, will require phylogenetic analysis, where possible coupled to type studies. Andy Methven, our *Lactarius* specialist this year, knows this. For example, he signed off several species as *Lactarius deterrimus*, even though he knows that this European species may not exist in North America at all. He qualified one such identification with "sensu Amer. auct.", which means according to the current interpretation of most American authors. Because of this, he agreed to help us try to sort out at least this group of *Lactarius*, so that in some future year we can use correct names for the group currently flying under the incorrect name, *Lactarius deterrimus*. Look for it in the future. Meanwhile, we continue writing

Figure 2. **Tricholoma subluteum**, *an example of where study of a common group could improve our species list. In past years, tricholomas like this have been variously identified as* T. fumosoluteum *or even* T. intermedium. *With less peaked caps and entirely yellow gills, the* T. equestre *complex comes into play, and with more peaked caps, taller stems and more olive hues in addition to the yellow, the* T. subsejunctum *complex may cause confusion. In pine forests,* T. davisiae *needs to be considered—very similar pine associates with more acute caps. Phylogenetic study of these groups should tell us which species we share with Europe, which are distinct on this continent, how many of these are found in NL, and how to identify them.*

names currently in use, even if we know they are wrong, simply because we do not have better names to offer.

What does all this mean to you? Well, if your main interest is to spend an enjoyable week-end in the woods with likeminded companions, to learn a few things about the mushrooms with which we share this earth, to recognize a few species that may widen your dining pleasure, and then return home a little more knowledgeable and a little more able to appreciate the value of nature—no change. The foray will always try to offer you that because that is the main purpose of FNL.

If your aim is to identify most of the "traditional mushrooms" in the province, the task is not hopeless. Although we may have 6-8,000 fungal species here, "normal" mushroom species are probably under 2,000, a manageable number, not all that different from the number of vascular plant species.

If you have other more scientific goals, then these data tell you that future efforts should be aimed in two directions.

1. Continue inviting subspecialists to add depth to groups otherwise rarely explored. Monitor the results to know when you are getting there. For example, if you know that there are over 10,000 species of pyrenomycetes, then the 20 or so on our list is unlikely to have exhausted the supply.

2. Work with investigators interested in our large groups, to study their phylogeny in our province. At this stage, we will not identify too many new species morphologically, but may discover that the species concepts we have used may be incorrect or may cover several closely similar species. Because we have a good amount of experience, as well as voucher specimens and photographs, knowing genetic clades may allow us to look back and identify characters that help separate members of the clades from each other. Where possible, tying them to type material will help identify our species with certainty. *Agaricus*, *Amanita*, *Cortinarius*, *Lactarius*, *Ramaria*, *Russula*, and *Tricholoma* are a few of the bigger common genera that would benefit from such treatment.

The beacon of the Lobster Cove Head lighthouse provided sailors with information when to alter course to get to home port safely. Analysis of our data should provide similar information for changes in direction to learn more of our fungi. If this is not your main interest, but, like most of us, you enjoy the foray experience for itself, then surely it will be that much more rewarding to know that your participation created a helpful slipstream for the scientific ship to sail in your wake.

SPECIES LIST AND DISTRIBUTION BY FORAY TRAIL - LICHENS

Chris Deduke and Michele Piercey-Normore

Species	Sir Richard Squires	Stanleyville	Western Brook Pond	Big Level	#2 Lomond River	Burnt Hill	Trout River Trail	Green Garden	Lobster Cove Head	Stuckless Pond	Kildevil Campground
Alectoria sarmentosa	√	√	√								
Amandinea punctata											
Arctoparmelia centrifuga				√							
Arctoparmelia incurva				√							
Athallia holocarpa		√									
Baeomyces rufus		√		√							
Bryoria trichodes	√		√								
Buellia stillingiana (?)	√										
Calicium abietinum					√						
Calicium sp.		√									
Carbonea vorticosa						√					
Cetraria aculeata				√							
Cetraria ericetorum				√							
Cetraria islandica			√	√							
Chaenotheca brunneola					√		√				
Chaenotheca furfuracea					√						
Cladonia acuminata				√							
Cladonia amaurocraea				√							
Cladonia arbuscula			√	√				√			
Cladonia arbuscula ssp. *mitis*			√	√							
Cladonia bellidiflora				√							
Cladonia borealis				√				√			
Cladonia boryi			√	√				√			
Cladonia caespiticia		√	√				√		√		
Cladonia cenotea	√	√	√					√	√		
Cladonia chlorophaea	√	√	√						√		
Cladonia coccifera				√							
Cladonia crispata	√	√	√	√				√			

Species	Sir Richard Squires	Stanleyville	Western Brook Pond	Big Level	#2 Lomond River	Burnt Hill	Trout River Trail	Green Garden	Lobster Cove Head	Stuckless Pond	Kildevil Campground
Cladonia cristatella				√				√			
Cladonia deformis	√	√									
Cladonia digitata	√	√	√								
Cladonia fimbriata			√	√							
Cladonia gracilis		√									
Cladonia gracilis ssp. *gracilis*				√							
Cladonia macilenta	√		√		√						
Cladonia macrophylla				√							
Cladonia maxima				√				√			
Cladonia merochlorophaea		√									
Cladonia multiformis								√			
Cladonia ochlrochlora	√	√	√		√				√		
Cladonia pleurota	√		√	√	√			√	√		
Cladonia pyxidata		√						√			
Cladonia rangiferina	√			√		√		√			
Cladonia rei	√	√	√								
Cladonia scabriuscula		√							√		
Cladonia squamosa	√		√	√					√		
Cladonia stellaris			√	√		√		√			
Cladonia stygia	√		√	√				√			
Cladonia subulata		√									
Cladonia turgida								√			
Cladonia uncialis			√	√							
Cladonia verticillata	√			√							
Cladonia wainioi				√							
Evernia mesomorpha								√			
Flavocetraria cucullata				√							
Flavocetraria nivalis				√							
Graphis scripta	√	√					√				
Hypogymnia incurvoides	√	√									
Hypogymnia krogiae			√								
Hypogymnia physodes	√	√	√	√	√				√		
Hypogymnia tubulosa	√	√	√	√	√		√				

Species	Sir Richard Squires	Stanleyville	Western Brook Pond	Big Level	#2 Lomond River	Burnt Hill	Trout River Trail	Green Garden	Lobster Cove Head	Stuckless Pond	Kildevil Campground
Icmadophila ericetorum	√										
Lecanora polytropa				√							
Lecanora symmicta			√								
Lecidea albofuscescens (?)	√										
Lepraria finkii	√		√			√			√		
Lobaria pulmonaria	√		√		√				√	√	
Lobaria quercizans			√								
Lobaria scrobiculata			√						√		
Loxospora elatina	√		√		√	√			√		
Loxospora ochrophaea	√	√	√	√	√						
Melanelia hepatizon				√							
Melanelia stygia				√							
Montanelia panniformis				√							
Mycoblastus sanguinarius	√			√				√			
Mycocalicium subtile (?)		√									
Nephroma arcticum				√							
Ochrolechia androgyna				√							
Ochrolechia frigida				√							
***Ochrolechia pseudopallescens* (?)**				√							
Parmelia omphalodes				√			√				
Parmelia saxatalis				√				√			
Parmelia squarrosa			√					√	√		
Parmelia sulcata	√										
Parmeliopsis capitata			√								
Parmeliopsis hyperopta				√							
Peltigera aphthosa	√			√							
Peltigera canina	√	√							√		
Peltigera degenii	√			√			√				
Peltigera didactyla	√										
Peltigera elizabethae						√			√		
Peltigera membranaceae	√					√			√		
Peltigera praetextata									√		

Species	Sir Richard Squires	Stanleyville	Western Brook Pond	Big Level	#2 Lomond River	Burnt Hill	Trout River Trail	Green Garden	Lobster Cove Head	Stuckless Pond	Kildevil Campground
Peltigera scabrosa				√							
Pertusaria dactylina				√							
Pertusaria macounii											√
Pertusaria panyrga				√							
Placynthiella uliginosa				√							
Platismatia glauca	√	√	√	√	√		√	√	√		
Platismatia norvegica					√						
Porpidia crustulata				√							
Propidia tuberculosa				√							
Protopannaria pezizoides									√		
Ramalina dilacerata	√										
Ramboldia cinnabarina (?)		√									
Rhizocarpon geographicum	√			√							
Ropalospora chlorantha									√		
Sphaerophorus fragilis				√							
Sphareophorus globosus				√							
Stereocaulon vesuvianum				√							
Tuckermannopsis americana	√		√					√			
Tuckermannopsis orbata											
Tuckermannopsis sepincola			√								
Umbilicaria cylindrica				√							
Umbilicaria hyperborea				√							
Umbilicaria polyphylla				√							
Umbilicaria proboscidea				√							
Usnea dasopoga	√										
Usnea longissima			√								
Variolaria amara	√		√				√		√		
Vulpicida pinastri			√	√				√			
Xanthoparmelia conspersa						√					
Xylographa parallela		√									
Xylographa sp.		√									

Note: species in bold may be considered new to the province.

SURVEY OF THE LICHEN-FORMING ASCOMYCETES DURING THE 2015 NL FORAY

Chris Deduke and Michele Piercey-Normore

Lichen collections were made by the authors with the help of A. Arsenault, C. Hanel, and other participants of the foray. This year collections were made at eleven locations throughout Gros Morne National Park. Six of the eleven locations were analysed more closely that had more than 20 species per location. The six locations included **Sir Richard Squires Memorial Provincial Park**, a mixed forest habitat consisting of deciduous (birch) and coniferous trees (spruce, larch and fir). The trail also contains some open bog and moist riparian forest along the Humber River. **Stanleyville trail** was a coniferous forest consisting of mainly balsam fir and decaying wood. **Western Brook Pond trail** had both coniferous forest and large areas of open *Sphagnum* bog. The **Big Level** was a remote arctic/alpine habitat interspersed with balsam fir tuckamore. The **Green Garden trail** was a tableland that ascended into a mixed-wood forest of birch, maple, larch and balsam fir. **Lobster Cove Head trail** was a coastal coniferous forest of fir and spruce with tuckamore.

Species Highlights

There were 124 species or subspecies of lichens reported this year, with 242 specimens collected. Thirty-seven of the species belong to the genus *Cladonia*, five Pin lichens (*Calicium abietinum*, *Calicium* species, *Chaenotheca brunneola*, *C. furfuracea* and *Mycocalicium subtile (?)*), and 10 species of cyanolichens (8 *Peltigera* species, *Protopannaria pezizoides* and *Stereocaulon vesuvianum*). The most abundant species were *Platismatia glauca*, reported in 8 locations, and then *Cladonia pleurota*, *Hypogymnia physodes*, and *H. tubulosa*, which were reported in 6 locations each. Four species were not found on any previous list for the province and may be new to the province, *Calicium abietinum*, *Cetraria ericetorum*, *Hypogymnia krogiae*, and *Ochrolechia pseudopallesecens* (?).

Photo: Maria Voitk

Lobster Head Cove

Habitat similarity among locations visited

An analysis of habitat similarity (Table 1) between the six locations with over 20 species present shows that Sir Richard Squires Park and Western Brook Pond trail were the most similar with 36.8% (Table 1). Both habitats shared coniferous forest and open bogs. Western Brook Pond trail and Lobster Cove Head trail were the next most similar sites with 30.4% (Table 1). Stanleyville trail shared the most species (28.8%, Table 1) with Sir Richard Squires Park. Both trails had forests populated with birch and spruce trees. Trails in which lichens were not collected are not included in Table 1.

Table 1: Species diversity is shown in this table by the Jaccard's Index of similarity, which is the percent similarity between two locations based on the species composition. The Jaccard's Index of similarity assumes similarity between locations or habitats using the concept that species are adapted to specific habitat conditions. If the composition of species are similar between habitats, then the habitats must also be similar.

Locations for comparison	Percent similarity
Sir Richard Squires X Stanleyville	28.8%
Sir Richard Squires X Western Brook	36.8%
Sir Richard Squires X Big Level	15.9%
Sir Richard Squires X Green Garden	15.4%
Sir Richard Squires X Lobster Cove Head	27.7%
Stanleyville X Western Brook	21.8%
Stanleyville X Big Level	7.1%
Stanleyville X Green Garden	8.9%
Stanleyville X Lobster Cove Head	19.5%
Western Brook X Big Level	18.6%
Western Brook X Green Garden	22.4%
Western Brook X Lobster Cove Head	30.4%
Big Level X Green Garden	20.0%
Big Level X Lobster Cove Head	5.0%
Green Garden X Lobster Cove Head	10.5%

The Big Level was the most unique habitat visited at the foray with the lowest average species similarity values between locations (8.4%). The Big Level was most similar to Green Gardens with only 20.0% similarity (Table 1). The two locations shared 14 species, 10 of which were from the genus *Cladonia*. The open barrens from the Tablelands and the arctic/alpine environment offered similar habitat conditions for the ground dwelling lichens. The Big Level is different from Lobster Cove Head at only 5.0% similarity (Table 1). The two locations are different in elevation, forest cover and exposure. The Big Level is an elevated open environment while Lobster Cove Head is a coastal forested habitat.

Green Gardens Trail was the second most distinct habitat, with the second lowest similarity values (11.5%). It shared the highest species similarity with Western Brook Pond at 22.4% (Table 1). Seven of the 11 shared species belonged to the genus *Cladonia* including *C. borealis*, *C. cristatella*, *C. pleurota* and various Reindeer lichens. In general, Western Brook Pond and Sir Richard Squires Park had the highest species similarity values between locations (26.0% and 24.9% respectively), indicating that the forested and bog habitats provided sufficient conditions for a wide variety of different lichen species.

Species Diversity

The Big Level had the highest species diversity with 63 species (Figure 1). The majority of these species were found growing among mosses on the ground. These included members of the *Cladonia*, *Cetraria*, *Ochrolechia* and *Peltigera* genera. Exposed rocks provided additional substrates for lichen growth including foliose members of *Arctoparmelia*, *Melanelia* and *Umbilicaria*, along with crustose *Pertusaria* and *Porpidia* species. Sir Richard Squires Park and Western Brook Pond trail were the next most diverse locations with 39 species each (Figure 1). The *Sphagnum* bog habitat contained many species of *Cladonia*, while the forests were suitable for *Bryoria trichodes*, various *Hypogymnia* species, *Lobaria pulmonaria* and *Platismatia glauca*. Western Brook Pond trail also contained *L. scrobiculata* and *L. quercizans*. Stanleyville trail had a diversity of 28 species, aided in part by the amount of dead and decaying wood in the forest. This provided suitable habitat for crustose species like *Graphis scripta* and *Xylographa parallela*. Green Gardens and Lobster Cove Head each had a diversity of 21 species.

Photo: Andrus Voitk *Nephroma arcticum*

Photo: Maria Voitk

Graphis scripta

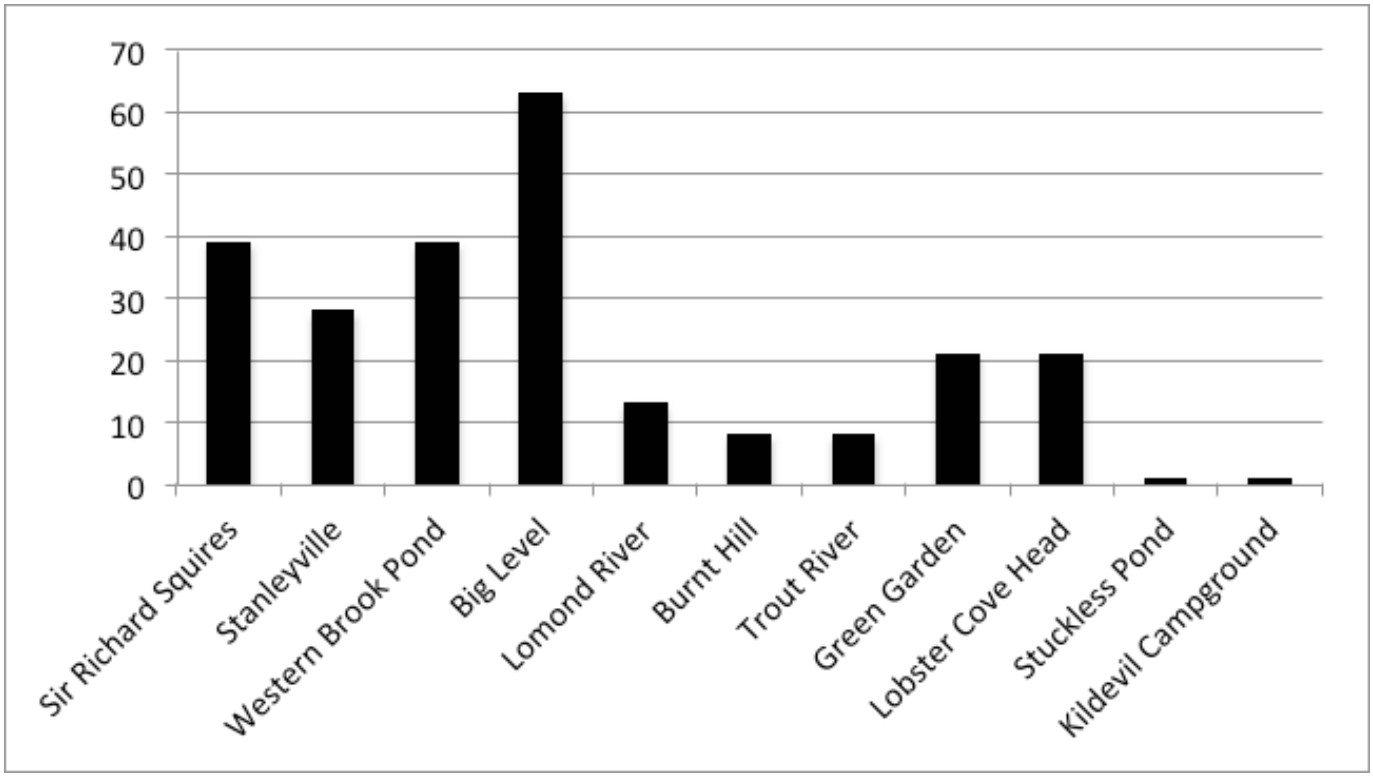


Figure 1: *The number of lichen species (y-axis) collected at each location visited (x-axis) during the NL Foray 2015 is shown in this bar graph. The four locations with more than 20 species were compared using Jaccard's Index of similarity.*

In summary, this year's foray recorded 124 species of lichens. The Big Level was an exciting new location visited this year, and it provided the greatest lichen diversity with 63 species. This habitat was the most unique of all locations producing the lowest average species similarity scores, comprised primarily of an arctic/alpine environment. The majority of lichens found here were ground dwelling *Cladonia* species and rock dwelling foliose and crustose lichens. The Green Garden trail was the closest in species similarity to the Big Level and this was due to the exposed Tableland barrens at the beginning of the trail. Lobster Head Cove, another new location this year, showed some interesting finds such as *Ropalospora chlorantha* and *Protopannaria pezizoides*.

FORAY NEWFOUNDLAND AND LABRADOR

Photo: Roger Smith

GROS MORNE 2015

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FORAY NEWFOUNDLAND AND LABRADOR

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Photo: Muskrat Falls, Labrador, Mavis Penney