OMPHALINA

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Foray registration & information issue

Newsletter of FORAY NEWFOUNDLAND AND LABRADOR

Vol. IX, No 4
Apr.27, 2018

FORAY NEWFOUNDLAND AND LABRADOR

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

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seened AT *gmail* DOT *com*,

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COVER

Polyozellus mariae, a new species of *Polyozellus* described from Gros Morne National Park, the trail to Stanleyville. Named as a fitting tribute to Maria Voitk, who found it and immediately recognized it as a *Polyozellus*, but "not our regular one." It took Maria's insistence, despite the protestations of her soi-disant expert husband to get the investigation going that eventually led to the description of this new species. And three more.

As so often is the case with those who are dead wrong, her husband is in good company. Photos of this species and its other non-multiplecious relatives appear in the hands of experts on the web and in books, all identifying them as *Polyozellus multiplex*, which they ain't.

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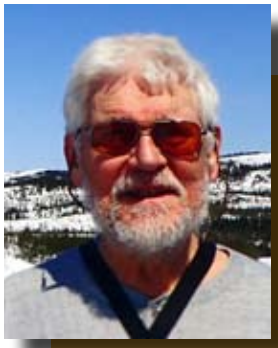
CONTENT



Message from the Editor

Welcome to our *Polyozellus* edition! Those of you who attended last year's foray already heard most of the story of Maria's mushroom. Last year's Foray story is a good one with which to introduce this year's Foray announcement issue. Please see the info and Registration Form on pp. 3–8, fill out the Form and send it in to register. Members get this issue a bit before the general public, to give them an opportunity to secure a place—one of the benefits of membership…

Now the story of Maria's mushroom is official, published in an issue of Mycologia with a blue *Polyozellus atrolazulinus* on the cover:

Voitk A, Saar I, Trudell S, Spirin V, Beug M, Kõljalg U: Polyozellus multiplex (Thelephorales) is a species complex containing four new species. Mycologia 109:975–992; https://doi.org/10.1080/00275514.2017.1416246 . 2017.

We report it here by one person, but it is not the work of that one person alone. This work is very much the product of all the coauthors: Urmas Kõljalg knows the field inside out. He and Irja Saar know and do phylogenetic and SH analysis and SEM. Steve Trudell, Michael Beug and Slava Spirin know some of the species that the others do not, without which we should not have been able to describe them. In addition to authors, there were many other collaborators, recognized in the Acknowledgments of the Mycologia article: Scott Redhead helped prod the early story along. The herbaria CMMF, DAOM, DBG, DBI, H, MAINE, NY, TAAM, UBC, and WTU, and their curators and staff were very generous and supportive with loans of vital material, and GMNP and SWGC with arranging loans and providing facilities for their examination. Any or all of collections, photos, sequences and information were kindly supplied by Alissa Allen, Jean Bérubé, Tom Bruns, Foray Newfoundland & Labrador, Zai-Wei Ge, Susan Goldhor, Herman Lambert, Jacques Landry, Renée Lebeuf, Henry Mann, Michaeline Mulvey, Darci Rivers-Pankratz, Noah Siegel, Else Vellinga. Finally, the MS was reviewed by Brandon Matheny, Greg Thorn and two anonymous reviewers, as well as the editorial staff of Mycologia, greatly improving the presentation. We give you one author's personalized record of the amalgamated work of all these people—and likely some, whose names have been omitted due to inadvertent memory failure, whose forgiveness we ask now—all unstintingly devoting their time and effort to the whole.

This issue offers you not one, but two events for which to register. See pp. 22–26 for an account of **The Great *Huangshania novae-fundlandiae* Hunt of 2018**, May 21–22 around the west coast. Registration form on p. 23. I promise you—you have never done anything like it in your life, so come along and live a little! Imagine some 20 people spending two days looking for something dark, 1 mm in diameter, on pine bark!

ERRATUM

In the *Suillus* issue (Vol 9. Nr 2) the author maintained that there was no native pine in Labrador. He erred. In fact, there are two well-known stands of native jack pine (*Pinus banksiana*) in Western Labrador (quite far inland) in the Redfir Lake-Kapitagas Channel Ecological Reserve in Southwest Labrador—the easternmost stands of this species in North America.

See you at the foray!

FORAY 2018

BURRY HEIGHTS, SALMONIER LINE

This year we head back to the Avalon Peninsula. Our previous forays in this area were in 2006 and 2007. We will be based once again at the Burry Heights Camp and Retreat Centre. This issue of Omphalina contains the registration form for Foray members. The forms for general registration will be put on our website <nlmushrooms.ca> in a few weeks, so if you are interested in attending, please register early, while places are still available.

The Avalon is a great place for a foray. It has something to do with all that rock, all those trees and ponds, and all that rain, drizzle, and fog. The southern Avalon has one of the highest mean annual precipitation rates on the Island—1,200 to 1,600 mm—out-drowned only by the Burgeo area. As a result, the Avalon has a rich lichen flora, and the deep moss beds beneath black spruce-balsam fir forest is a fantastic

Photo: Roger Smith

Turn page to see how professionals photograph these mushrooms.

No, not the morning after the faculty party. Not even mushroom poisoning. Serious case of mushroom photography.

medium for the growth of fungi.

Dampness, corruption, decay, and rot are all positive terms from the fungal point of view—and the highly saturated atmosphere of the Avalon is perfect for fungal growth. Groups of us will explore a wide range of trails throughout the area during the Foray, and our identifiers will range even farther afield during the Faculty Foray, which occurs during the three days preceding the Foray.

The 2018 foray is scheduled into peak *Suillus* fruiting time in Newfoundland in hopes to reap its abundance, so that we may profit from invited *Suillus* experts (see Omphalina vol. IX, no. 2, March 2018, the *Suillus* issue).

This year's registration is a bit simpler than last year's. Your fee covers Foray membership, all meals from supper on Friday to lunch on Sunday, accommodation on Friday and Saturday nights, a Foray whistle and hunter-orange cap (if you need one), and any workshops or talks that we are offering this year. Note: workshops at no extra charge, but there is a materials cost for watercolour workshop.

Unfortunately, we can no longer offer subscriptions to FUNGI magazine on behalf of members. If you would like to receive this colourful, fascinating, and very worthwhile publication, please subscribe at: www.fungimag.com/subscribe.htm.

I hope to see you at Burry Heights, it will be great to be back on the east coast of the Island again!

Michael

Were you there in 2006?

Photo: Roger Smith

Or 2007?

Photo: Roger Smith

Well, don't miss out in 2018!

Print the next two pages, fill them out, send in, and you're as good as there. Come well dressed, in a Tee!

FORAY NEWFOUNDLAND AND LABRADOR

Registration & Acknowledgement of Foray Participant's Responsibility, Express Assumption of Risk, and Release of Liability

Salmonier Line, September 28, 29, & 30, 2018

1. *Spaces are limited*, so registrations are accepted on a first-come first-served basis. We can only accept payment by cheque or cash. A Registration is only recorded when full payment and a signed Acknowledgement have been received. Please submit a completed Registration and Acknowledgement form for each participant.
2. Please print out both pages of this form, fill them out, sign, add your cheque made out to "**Foray NL**", and send to:

Geoff Thurlow
16 Hammond Drive
Corner Brook, NL, A2H 2W2, CANADA

Important!
Before registering, please read the information about the foray posted on our website
www.nlmushrooms.ca

Name: _____ Date _____

Street: _____

City: _____ Province/State:_____ Code:_____ Country:_____

Tel: (_____)_____-_____ e-mail: _____

Participation fee (in Canadian dollars)

Adult (includes registration fee, reception, two breakfasts, Saturday bag lunch, Saturday supper, Sunday lunch, workshops (except materials), lectures, trails, and other activities)..... $250.00 _____

Youth 13 to 17 pay 50% (Children 12 or younger participate for free).....$125.00 _____

Database Team: Students - no fee; Non-student team veterans 50%* .....$125.00 _____

Your membership in Foray NL is included in the participation fee. Membership lasts until the following year's foray.
Please Note: This year, the participation fee also covers meals and accommodations!

Places are limited in the Watercolour workshop, and will be allotted on a first-come first-served basis. If the session is full, your fee will be refunded.

Watercolour Workshop fee is $42.00 for paints ($26) and book ($16); do not pay if you bring your own..... +_____

Book Purchase: I wish to buy _____ NL mushroom field guides @ $20.00 each..... +_____
This is a special members' price. We do not sell the book at the foray.

TOTAL ..... _____

Special needs/wishes:
Dietary or other needs .....

Expertise preference
Willing to co-lead a field trip ..... Willing to identify specimens .....
Wish to help in other ways (please suggest) .....

* We request that database team members who have organizational support please pay the full participation fee, if possible—Foray NL has very limited sources of funds. Contact M. Burzynski if you have questions: info@nlmushrooms.ca

I understand that during my participation in the events that together make up the Annual Fall Mushroom Foray, henceforth known as "the Foray" of MUSHROOM FORAY NEWFOUNDLAND & LABRADOR, INC., henceforth known as "FNL", I may be exposed to a variety of hazards and risks, foreseen or unforeseen, which are inherent in the Foray and cannot be eliminated without destroying the unique character of the Foray. These events include, but are not limited to: accommodations, identification outings, scientific presentations and investigations, meals, including as a food course mushrooms selected by participants, leaders, including FNL Organizers and Faculty, and travel to and from the outings and meals. The inherent risks include, but are not limited to: the dangers of serious personal injury, property damage, and death, henceforth known as "I&D", from exposure to the hazards of travel; moving in the wilderness, including uneven or insecure terrain, actions of fellow participants, wild animals or third parties, including hunters; mushrooms that may be poisonous, toxic, or cause unforeseen allergic or other adverse reactions in individuals, both independently and in conjunction with other substances, including wine or other alcoholic spirits. FNL Organizers and Faculty have not tried to deny or minimize my understanding of these risks. I know that I&D can occur by natural causes or activities of other persons, FNL Organizers and Faculty, animals, trip members, trip leaders and assistants or third parties, either as a result of negligence or because of other reasons. I understand that risks of such I&D are involved in adventure travel such as the Foray and I appreciate that I may have to exercise extra care for my own person or others around me in the face of such hazards. I further understand that the Foray may not have, or be readily accessible to, rescue, medical facilities, or expertise necessary to deal with the I&D to which I may be exposed.

In consideration for my acceptance as a participant on the Foray and the services and amenities to be provided by FNL Organizers and Faculty in connection with the Foray, I confirm that:

1. I have read these and any other terms, rules, information and conditions applicable to the Foray, made available to me directly or on the FNL website;
2. I will pay any costs and fees for the Foray;
3. I choose to participate in the Foray of my free will, being fully aware of the risks involved; and
4. I acknowledge my participation is at the discretion of the leaders.

The Foray officially begins and ends at the times and location(s) designated by FNL Organizers and Faculty. The Foray does not include carpooling, transportation, or transit to and from the Foray (including ferry) or trails during the Foray, and I am personally responsible for all risks associated with this travel. This is meant to include transportation provided by FNL Organizers and Faculty or participants during the Foray, including transport or carpooling to trails during the Foray and between the accommodations and the Foray trails.

If I decide to leave early and not to complete the Foray as planned, I assume all risks inherent in my decision to leave and waive all liability against FNL Organizers and Faculty arising from that decision. Likewise, if the leaders have concluded the Foray, and I decide to go forward without the leaders, I assume all risks inherent in my decision to go forward and waive all liability against leaders including FNL Organizers and Faculty arising from that decision.

This Agreement is intended to be as broad and inclusive as is permitted by law. If any provision or any part of any provision of this Agreement is held to be invalid or legally unenforceable for any reason, the remainder of this Agreement shall not be affected thereby and shall remain valid and fully enforceable.

To the fullest extent allowed by law, I agree to WAIVE, DISCHARGE CLAIMS, AND RELEASE FROM LIABILITY FNL, its officers, directors, employees, agents, faculty and leaders, from any and all liability on account of, or in any way resulting from I&D, even if caused by negligence of FNL, its officers, directors, employees, agents, faculty and leaders, or any other parties in any way connected with FNL or the Foray. I further agree to HOLD HARMLESS FNL, its officers, directors, employees, agents, faculty and leaders from any claims, damages, injuries or losses caused by my own negligence while a participant in the event. I understand and intend that this Assumption of Risk and Release of Liability is binding upon my heirs, executors, administrators and assigns, and includes any minors accompanying me on the outing.

I have read this document in its entirety and I freely and voluntarily assume all risks of such I&D and notwithstanding such risks, I agree to participate in the Foray.

Signed:

_____

Date:_____

If you are a minor (under age 18), your parent or legal guardian must sign this Agreement on your behalf.

I hereby agree and consent to the foregoing **Acknowledgment** on behalf of the minor named here:

_____

Relationship: _____

Signed: _____

Date:_____

Come to the foray in style!

Wear an NL TEE

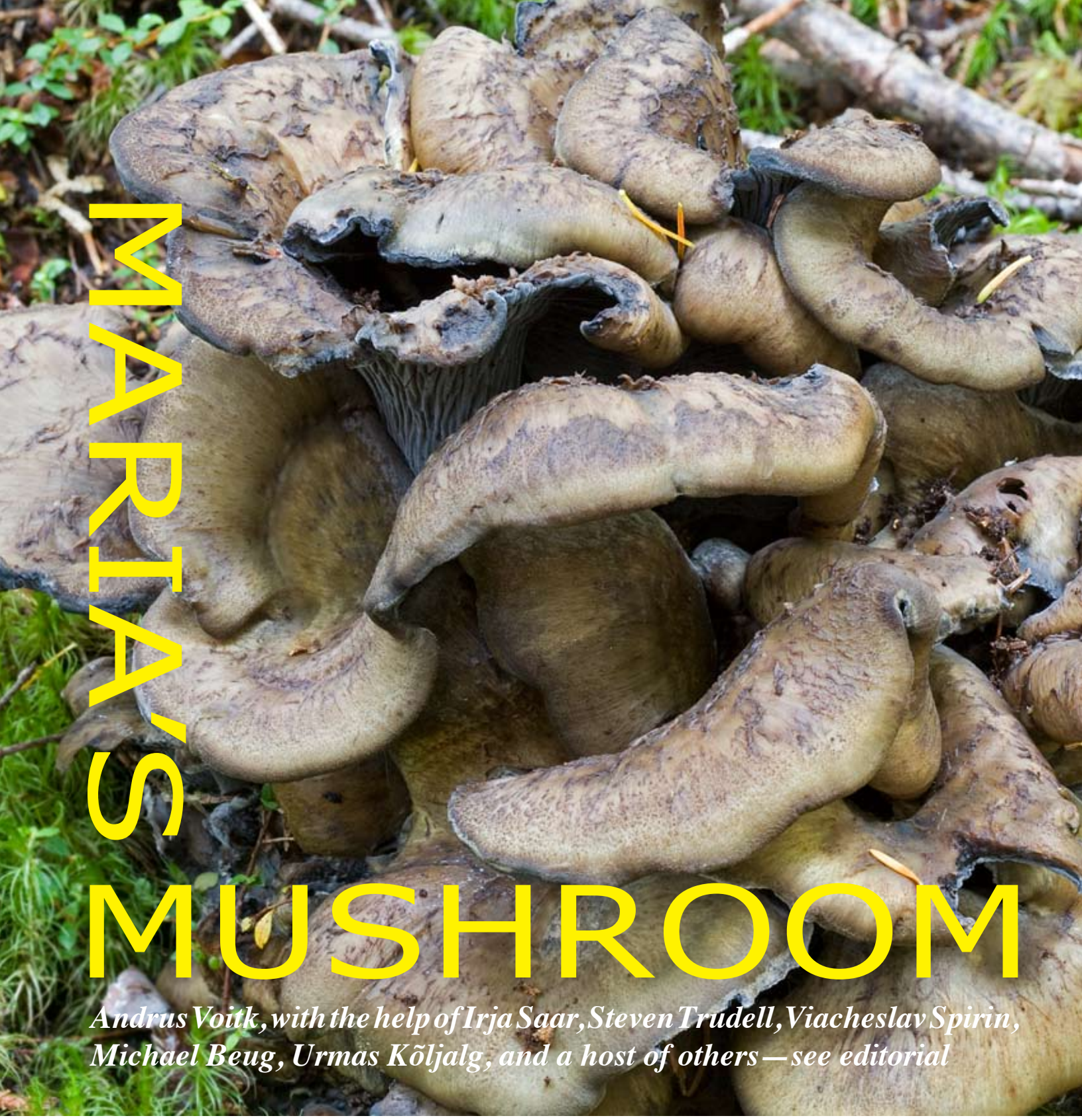
This shirt has been produced by Foray NL to commemorate a new mushroom identified as a result of work based of NL specimens.

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

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

Cost: $25.00, plus shipping.

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



MARTA'S MUSHROOM

Andrus Voitk, with the help of Irja Saar, Steven Trudell, Viacheslav Spirin, Michael Beug, Urmas Kõljalg, and a host of others—see editorial

—Look, I found a *Polyozellus*.

—That's not a *Polyozellus*.

—Not the usual one. Another one.

—There is no other one. *Polyozellus* has only one species, and this is not it.

That is how it started, back in September, 2009, when Maria found the species that now bears her name. You can imagine the rest of the discussion, back and forth, as is normal for folks married over 47 years. To each other. Normally, Maria would defer to me, as the all-knowing and learned mushroom expert, but on this occasion she stood firm and insisted this was a *Polyozellus*, but "not the usual one". I was content

to dismiss it as an unusual *Gomphus*, but her certainty made me discuss it with Urmas Kõljalg, part of our Faculty the year before and the world expert on the Telephorales, the group where *Polyozellus* belongs, to whom I had sent specimens for study.

It was my habit to leave a snapshot of interesting finds on my desktop to attach to correspondence with any interested mycologist. The reaction of most was, "Hmm, interesting," except for Scott Redhead, who wrote back and also insisted that this was a *Polyozellus*. I told him I had involved Urmas, but he asked for a sample to confirm his suspicion. The eventual culmination of these events was the publication of a paper describing five stipitate, leafy species of *Polyozellus* around the globe, four of them new to science, including "Maria's mushroom", *P. mariae*.

Is it fair to claim that this was only the result of Maria's stubbornness? Well, probably the new species would have been described in time, regardless. Urmas had already found phylogenetic divergences on nuclear studies, and was also aware that some collections of *Polyozellus* both in North America and the Far East had spores almost twice the size of others. In other words, evidence had already appeared, suggesting there may be more than one species of *Polyozellus*, and sooner or later this would have been investigated and reported. Maria's main contribution was to speed up the process.

"The process" resisted speed at every turn, so that it took almost nine years from the first discovery to publication. We used the time to gather more specimens, discover three additional species apart from Maria's mushroom, and get a better understanding of their global distribution. And learn more about these species—mostly that we do not know them as well as we thought we did, and at times distinguishing between species on the basis of morphology can be much more difficult than we initially thought. The mantle of humility does not rest equally well on all of us, which provided me with an opportunity to learn all kinds of useful lessons over and over again. Oh, well…

Well, that was how the discovery of Maria's mushroom began. If you want to read the scientific report, just ask for a copy, and I'll gladly send you one. Descriptions of the three species we have in this province (and the two we do not) follow.

Polyozellus multiplex (Underw.) Murrill

Macroscopic: Fruiting body 5–18+ cm high and 5–25 cm diam. , up to 7 cm long and 2–6 cm wide, tapering into stem; surface fuzzy in active growth, becoming matte, then smooth and shiny with irregular longitudinal ribbing, black to very dark purple, with variable bluish overtones; margin fuzzy, usually flaring out, matte to tomentose, light gray to gray-white, darkening at maturity. Hymenium composed of irregular, longitudinal, sinuous forking and anastomosing, decurrent folds, dark to light bluish gray. Stem 2–5 cm long and 5–18 mm thick, several fused to form a 4–9 cm diam solid, subterranean base; inner or upper surface fibrous, outer or lower surface covered with decurrent hymenium to near base; dark purple to black. Context soft, brittle, black to very dark purple throughout; odor chemical to fruity. Spore deposit white. Resistant to decay and invertebrate damage (except by slugs), and last over a month in the field in good condition.

Microscopic: Spores edge-to-edge, including nodules, 4.8–7.7 × 3.9–7.2 µm, average 6.3 × 5.3; Q=average 1.2; subglobose to broadly elliptical, angular, lobed, with multiple nodules; clear with homogeneous content. Basidia 50–95 × 6–11 µm, 4-spored, clavate. Cystidia 3–5 µm wide, filiform, straight to irregularly sinuous, nodulose, irregularly cylindrical, often with subclavate apices, not extending beyond basidia. Clamp connections in all tissues, but not at all septa.

Ecology and distribution: Fruits singly or in small groups on (often sandy) soil and conifer duff among mosses or fruticose lichens, under conifers. Recurs at same site for a decade or more, but often skips many years. Relatively uncommon. Fruits from the end of Aug to the beginning of Oct, most plentiful Sep. Documented in northeastern North America from Newfoundland to North Carolina, and in eastern Asia as far as southern China.

Notes: Multilocus analysis may show that Asian and American populations have evolved to become different species.

Polyozellus atrolazulinus Trudell & Kõljalg

Macroscopic: Fruiting bodies 6–15+ cm high and 10–20+ cm diam. Leaves multiple, fan shaped, sometimes funnel shaped, 3–10 × 2–8 × 0.1–0.5 cm, tapering into stem; surface tomentose, concentrically zonate becoming smooth with age, dark purplish to grayish blue, with lighter zones, black in age; margin incurved when young, wavy or lobed in age, pubescent at first, later matte; pale blue to whitish. Hymenium composed of sinuous folds or ridges, frequently forking and anastomosing, lighter grayish-purplish blue. Stems 3–5 × 0.5–2 cm, fused to form common subterranean base, outer (lower) portion covered with hymenium, upper dark purplish blue. Context dark purplish blue, odor non-distinctive or faintly pungent. Relatively resistant to decay and invertebrate damage (except by slugs), can last over a month in the field in good condition.

Microscopic: Spores edge-to-edge, including nodules, 4.8–7.7 × 3.9–6.7 µm, average 6.1 × 5.3; Q = average 1.2; subglobose to broadly elliptical, with multiple nodules 0.5–1 µm high; hyaline, content homogeneous. Basidia 30–70 × 5–10 µm, four-spored, clavate. Cystidia 3–7 µm diam, filiform, straight to sinuous, tips often subclavate, not extending beyond basidia. Clamp connections in all tissues, but not at all septa.

Ecology and distribution: Habitat & substrate same as for *P. multiplex*. The most cosmopolitan of the known species, it is commonest in Western North America, but documented in the Kuril Islands of Asia and in northeastern North America from Maine, Québec, Nova Scotia and, finally the specimen in the photo, above, from Newfoundland. See the web for much prettier and more dramatic photos. This one used because it is the only collection known from our province. *Notes:* May be difficult to separate from *P. multiplex*. Both have small sores, the remaining three have big spores. *Polyozellus atrolazulinus* has the smallest spores, which may be helpful, if they are outside the area of overlap with *P. multiplex*. Found by Maria.

Polyozellus mariae Voitk & Kõljalg See also p 10 & cover photo

Macroscopic: Fruiting body 8–35+ high and 12–40+ cm diameter. Leaves multiple, fan to funnel-shaped, up to 18 cm long and 5–15 cm wide, tapering into a stem arising from a 5–12 cm diam base; surface markedly downy during active growth, becoming matte and squamulose, with blackish longitudinal fibrils over a tan to light olive-brown base, which retains its tan-brown color in age; edge turned under like a cabbage leaf, with a narrow, whitish-gray to light violet-blue margin in growth that darkens with age. Hymenium composed of irregular longitudinal sinuous forking and anastomosing decurrent folds, violet-gray to black in age. Stem: 3–7 cm long and 7–20 mm wide, widening upwards, often fused to form a common subterranean base, solid, fibrous, scaly, outer surface covered with hymenium, inner surface black to dark brown. Context soft brittle straw to cream—cross-section reveals distinct brown pileipellis above and black hymenium below the whitish context—light colour persists in the dried specimen; odour mildly sweetish or unremarkable. Spore deposit white. Relatively immune to decay or invertebrate damage (except by slugs), and last over a month in the field in good condition.

Microscopic: Spores edge-to-edge, including nodules, 6.7–10.6 × 5.3–9.6 µm, average 8.3 × 7.0; Q = average 1.2; subglobose to broadly elliptical angular, lobed with multiple nodules 0.5–2 µm high; hyaline, homogeneous. Basidia 70–115 × 8–12 µm; 4-spored, clavate. Cystidia 4-7 µm wide, segmented, filiform, straight to irregularly sinuous, tips may be subclavate, not extending beyond basidia. Clamp connections in all tissues, but not at all septa.

Ecology and distribution: Fruits singly or in small groups in conifer woods among moss and conifer duff, preferring sandy soil, Aug to Oct. Shares habitat with the other two.

Notes: This is the only large-spored species in eastern North America, easily differentiated from the two small-spored ones by its larger size, light brown to tan pileipellis and whitish flesh.

Maria's mushroom, found, naturally, by Maria, not far from our house in 2012. August–September, 2015 fruiting bodies had all been eaten by slugs, so it tried to outsmart them by making one after the weather cooled below their active range.

I wanted to document its development, but as so often happens with late bloomers: too little, too late. The season was done. Growth soon stopped, and a month later it had already frozen, died, then thawed, without ever having gained full maturity.

I am sure you have not missed the spectrum of colours of the same specimen, depending on lens, camera, light and many other variables. I have not found comparison with standardized colour charts to be a valuable use of my time.

IDENTIFICATION

Polyozellus mariae differs from our other two species by its larger size, cabbage-like curling of the leaf margin, brown leaf surface, whitish flesh (the others are black throughout), larger spores and nuclear sequences.

The context of Polyozellus mariae is "white" when freshly viewed (straw coloured might be more accurate). The discovery was accidental, and unfortunately I did not think of taking better photos to show it than this one, cropped from a larger photo of an entire specimen. I broke up the specimen for drying, and again did not think of getting decent context photos.

Above: Broken leaf of *P. multiplex*, showing black flesh.

Left: The light flesh colour persist in drying. It can be seen quite readily in a relatively recent break of a NY specimen collected in 1903.

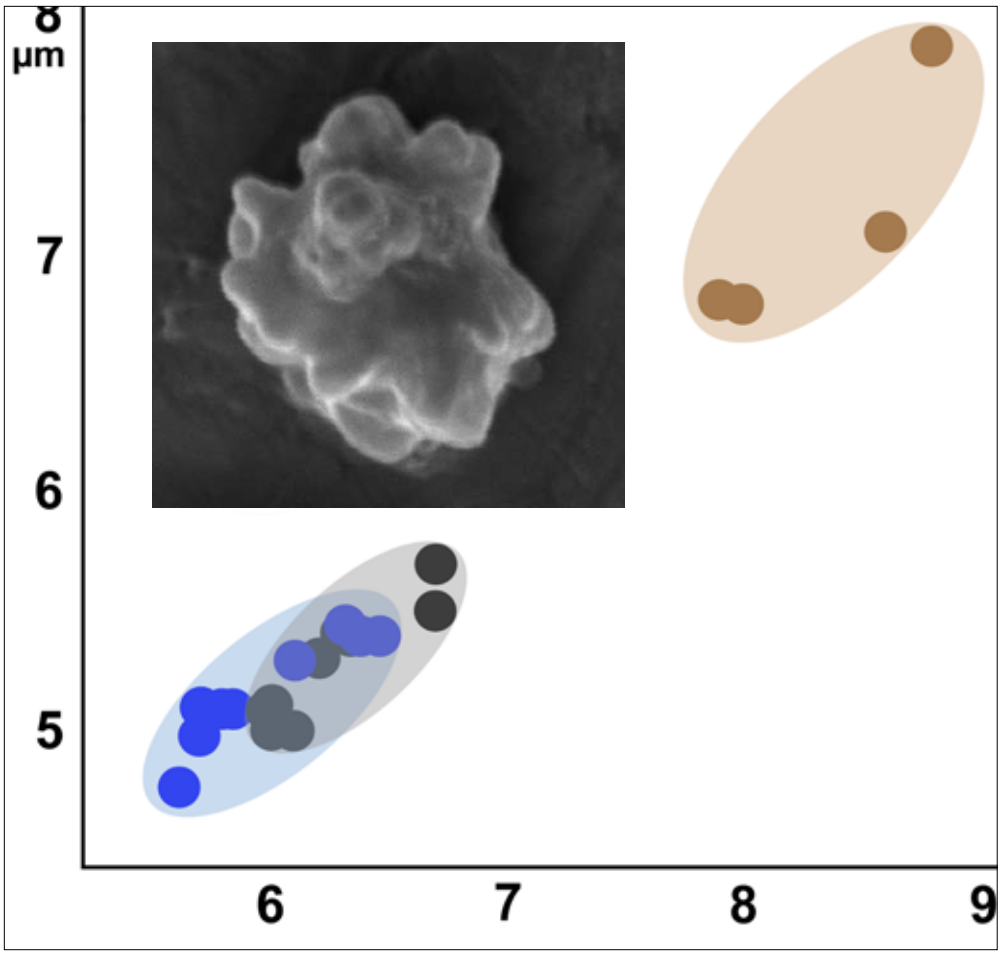
Left: Cabbage leaf-like downward curl of dark leaf margin af *P. mariae*. **Right**: Flared-out light leaf edge of *P. multiplex*.

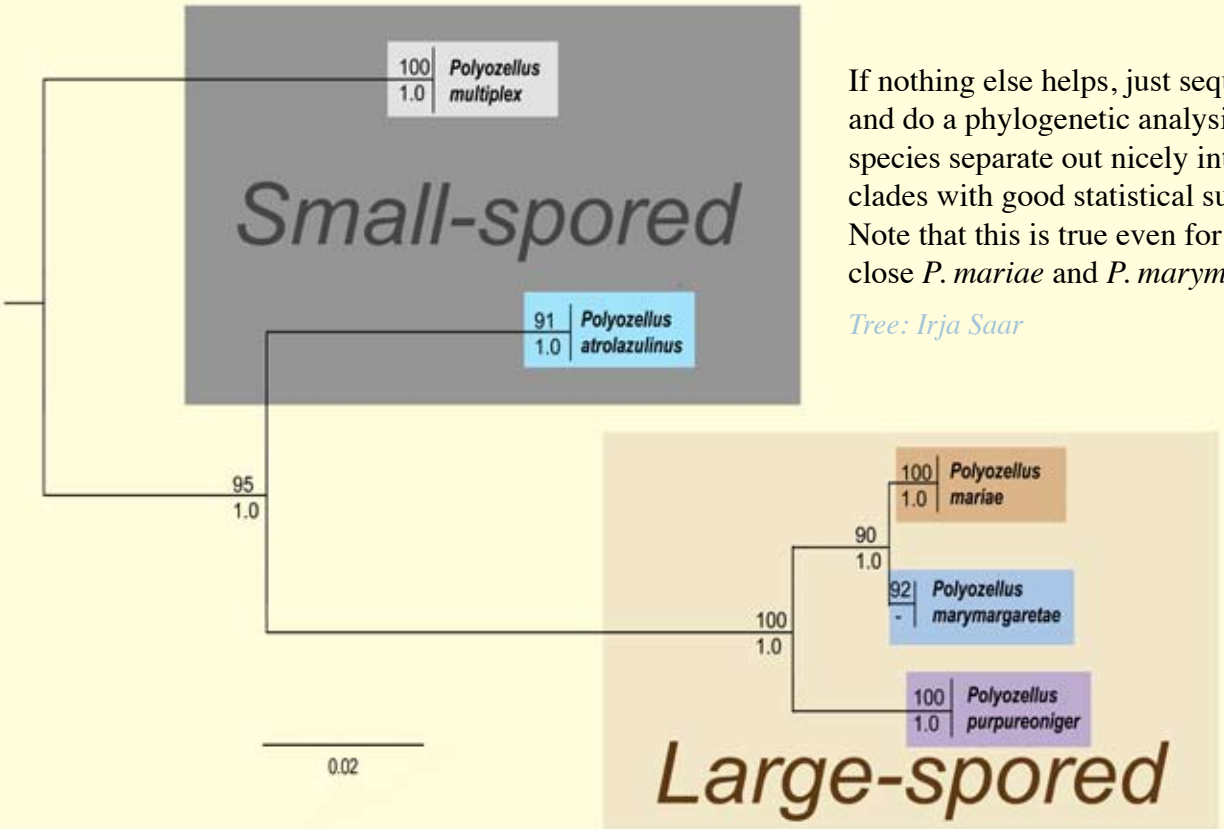
Average spore sizes (min 20 spores/specimen) for sequence-identified NL species: brown = *P. mariae*, blue = *P. atrolazulinus*, black = *P. multiplex*.

P. mariae is readily separate from the others by its larger spores. As macroscopically, so microscopically there is a large area of overlap for the other two, allowing confident identification by this method only if the size falls outside the overlap area.

Apart from size, the spores are similar for all: irregular with lobes, lobules and knobby projections—see insert. Measurement took place edge-to-edge, including all these irregularities.

Scaning electron microscopy: Urmas Kõljalg



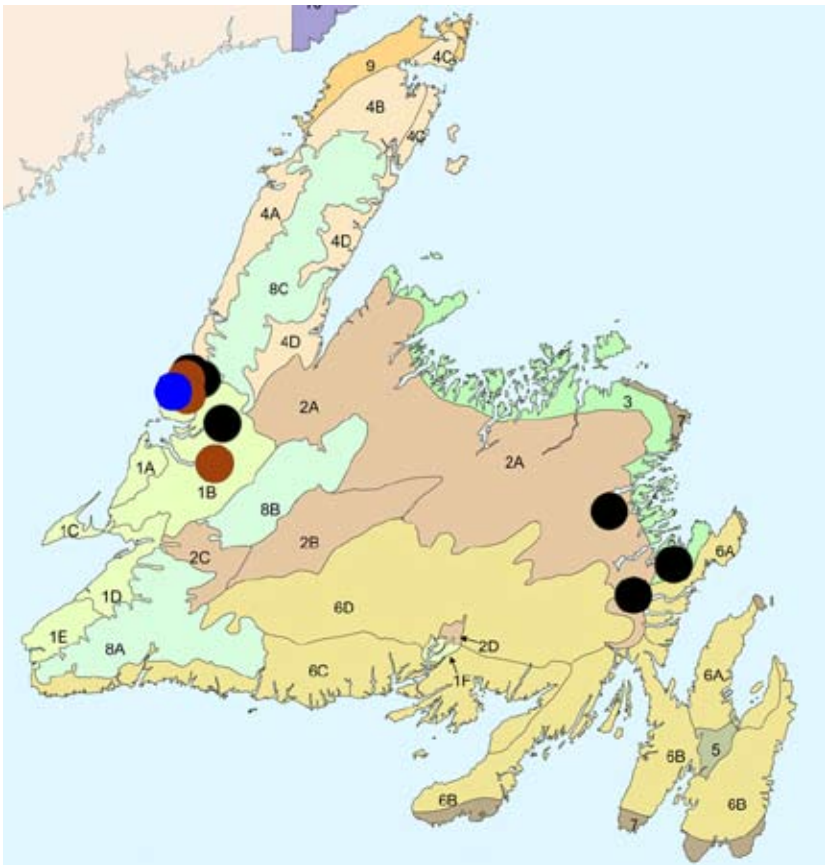


If nothing else helps, just sequence them and do a phylogenetic analysis. The species separate out nicely into distinct clades with good statistical support. Note that this is true even for the very close *P. mariae* and *P. marymargaretae*.

Tree: Irja Saar

Where are they in NL?

So far, we know of *Polyozellus* species only from western and central parts of the Island. Colour coding is grey or black for *P. multiplex*, brown for *P. mariae* and blue for *P. atrolazulinus*. Gros Morne National Park on the west coast has the greatest diversity, with all three species found on the Stanleyville trail. The title banner shows the four km trail from Lomond (L) to Stanleyville (S), with the sites where species of *Polyozellus* have been found marked. *Polyozellus mariae* was found here in 2009 and never again, despite regular searching with many people. Two small fruiting bodies of *P. atrolazulinus* were found there in 2017—a first after 15 years of searching. So far, this is the only known find of this species in the province. Please let me know if you find any more of the uncommon species.



Maps: Upper: Google Earth, Lower: Gov. NL

Species not found in NL

Polyozellus marymargaretae Beug & I. Saar

Large-spored species, so far only known from Washington State and Oregon.

Phylogenetically very close to *P. mariae*, but geographic distance and morphologic differences readily set them apart as discrete species.

Photo: Michael Beug

Polyozellus purpureoniger Spirin & I. Saar

Large-spored species, seemingly commonest in Alaska, known down to Washington State, and across the Bering Strait, to the Khabarovsk Region of eastern Russia, and the Kuril Islands. Becomes very dark after reaching maturity

Photo: Viachislav Spirin

The Bishop's Sketchbook

Paver of slugs—update

Andrus Voitk

The report of a fresh *Inonotus obliquus* fruit body [Omphalina 7(6):7–9, 2016], noted that it was chewed and covered with slime, suggestive of slug action. John Maunder suggested *Limax marginatus*, a tree slug that occurs in great numbers, and provided several photos, including two showing such numbers feeding on *Lobaria*. The collective noun "paver of slugs" was introduced to indicate a group of slugs, of which five or more were not in flight.

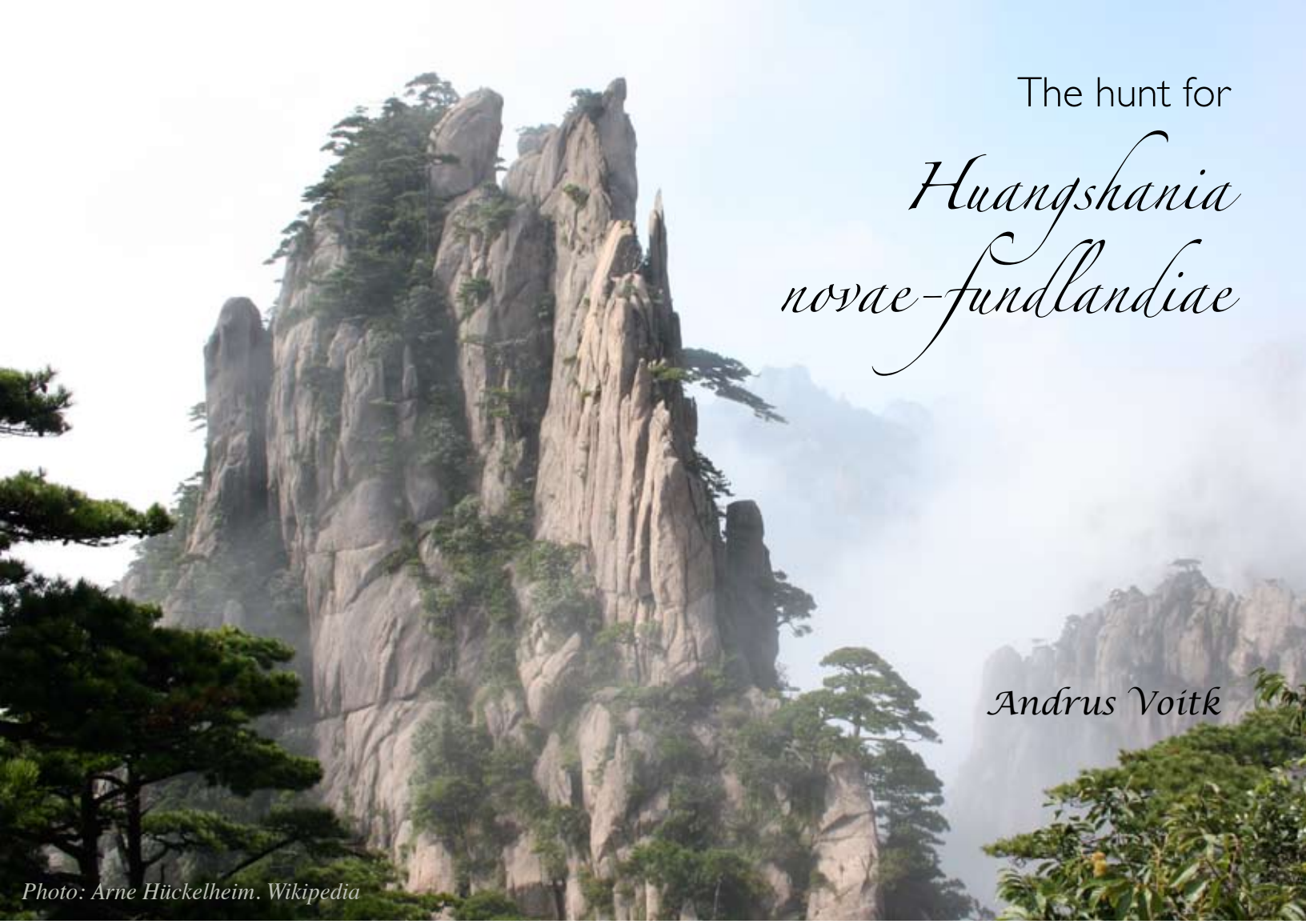
On a recent walk in Pasadena, we met several pavers of *Limax maximus* eating *Cytidia salicina* on a dead standing willow (title banner).

Tree slugs move in pavers, but even land slugs will appear in pavers, if the fare is good. Below is a paver of *Arion subfuscus*, eating a black glob shown by DNA to be *Polyozellus mariae*. Left to the slugs, it would remain undescribed forever, because over three months they never allowed the fruiting bodies to reach a recognizable state. Except the light flesh, which darkens after a while of exposure.

Maria (who else?) found the specimen on the bottom of the previous page near a path close to our house in 2012. We visited it every year to see if it had a chance to reach maturity and thus, be identifiable. The lighter flesh, darkening with time (upper L photo), should have given us a clue—but did not. We even failed to register the totally light flesh of freshly exposed, one year (upper R photo). But in 2015 Nils Hallenberg visited us and we took him on that trail and showed him our slug-eaten *Polyozellus*. "That's Maria's mushroom!" he exclaimed. Indeed, a few pilei had made it past the slugs and showed the typical brown top (lower photo). Nils, a corticiate specialist, recognized it immediately.

How did he recognize it? Well, we had a photo of Maria's mushroom on our wall, and he had seen it. When he saw the real thing in the woods, he immediately recognized it as the same thing as on our wall. Spore size was that of Maria's mushroom, and the identity was confirmed by sequencing. Very considerate of Maria's mushroom to fruit close to Maria's home, even if the slugs made life difficult for it. Slugs rule.

Slugs identified from photos by John Maunder



The hunt for *Huangshania novae-fundlandiae*

Andrus Voitk

Photo: Arne Hückelheim. Wikipedia

The title banner shows the dramatic pine-clad Mount Huangshan (huang = yellow, shan = mountain; pronounced wong-shan). At its base Ove Eriksson collected a 1 mm black cup fungus (Figure 1B) from the lower trunk bark of stout pines. It turned out to be an unknown species and an unknown genus; Eriksson named the genus *Huangshania*, after the mountain, and the species *H. verrucosa* (because of its coarsely warty spores).[1] However, this was not the only species in the new genus. Back in 1898 Arthur C. Waghorne collected a similar ascomycete (Figure 1A), also from the bark of a pine, near Grand Lake, NL. He sent it with other material to the German lichenologist Ferdinand C. G. Arnold, who passed it on to the ascomycete expert, Heinrich Rehm. Rehm described several new species from that packet, among them this ascomycete, which he named *Triblidiopsis novae-fundlandiae*.[2] A world review of the group of ascomycetes to which *Triblidiopsis* and *Huangshania* belong revealed that Waghorne's specimen belonged in the genus *Huangshania*, where it was transferred.[3] Thus, it became only the second species in the genus, but apparently, apart from Waghorne's 1898 specimen, now housed in the Swedish Museum of Natural History, there have been no other collections of the species in the world.

A team at Harvard in Don Pfister's laboratory has undertaken a contemporary review of this group, and Jason Karakehian, one of the investigators, asked for our help in locating some new specimens from the type locality. From a biogeographical point of view, almost anywhere on the Island, and certainly anywhere near the west coast, can be considered topographic, and we thought that exploring white pine (*Pinus strobus*) in the Blow Me Down Valley (Figure 3A) and around Grand Lake (Figure 3B) might be a good way to spend two days in May. Jason decided to come up from Harvard to join the hunt. We do not expect the wall at the border to be up before the summer, so he should have no trouble getting through.

Finding a black cup fungus less than 1 mm in size is challenging, so we thought that the more eyes, the better, and are, therefore, extending an invitation to all interested parties to come and help us find Waghorne's ascomycete that bears the name of our Island, unseen

for almost 130 years. If that is not challenging, maybe we will find buckets of morels along the side of the paths. Or maybe you would just like to join us in a nice outing on May 21 and 22.

If you are not able to join us on those dates, <u>you can still help</u>. Study Figures 1 & 2 to get an idea of what to look for, and the interlopers, and then go out and look for it on any white pine (five-needle pine) in your region. If you find something that looks like it, please take a photo and e-mail it to me <seened AT gmail DOT com>. I'll advise you how to collect, preserve and transport it. Maybe we shall have enough of them to make a nice Huangshania sauce by the time Jason comes up.

If you are able to join, please register, using the form below. We need to know who is coming to which event, so that we know to wait (at least a little) before setting out. We should like your contact information, in case we need to notify you of any changes, or should we need to ask you about any specimens you collected. Because we cannot guarantee anybody's safety in the wilds, to participate you need to acknowledge that you assume all risks to you. Please print out and fill in the form below to register, and send to Maria Voitk, 13 Maple St, Humber Village, NL, A2H 2N2, or bring with you. We will not have registration forms on site. Sorry for this officious part, but these days it is necessary.

<u>Equipment</u>: camera, whistle, basket or collecting box, many small bags to keep each specimen separate, knife & LUNCH. Loupe and GPS if you have one. Dress for the weather. Waterproof footwear advisable.

<u>Procedure:</u> Both outings will go ahead, regardless of weather (almost). Collect all that may be our target fungus. Loupe may help selecting what to collect. Please photograph every specimen you collect, AND record photo number on the card, so that the correct specimen can be linked to the correct photo.. Separate bag for each specimen with tag. Record GPS, if you can.

Blow Me Down VALLEY (Figure 3A)

DATE: Mon, May 21, 2018.

Meet 10:00 AM at Boy Scout Parking Lot

LEADER: Dmitry Sveshnikov
Other luminaries also expected to attend.

GRAND LAKE (Figure 3B)

DATE: Tue, May 22, 2018.

Meet 10:00 AM at TCH-Howley turnoff

LEADER: Henry Mann
Other luminaries also expected to attend.

Name: .....

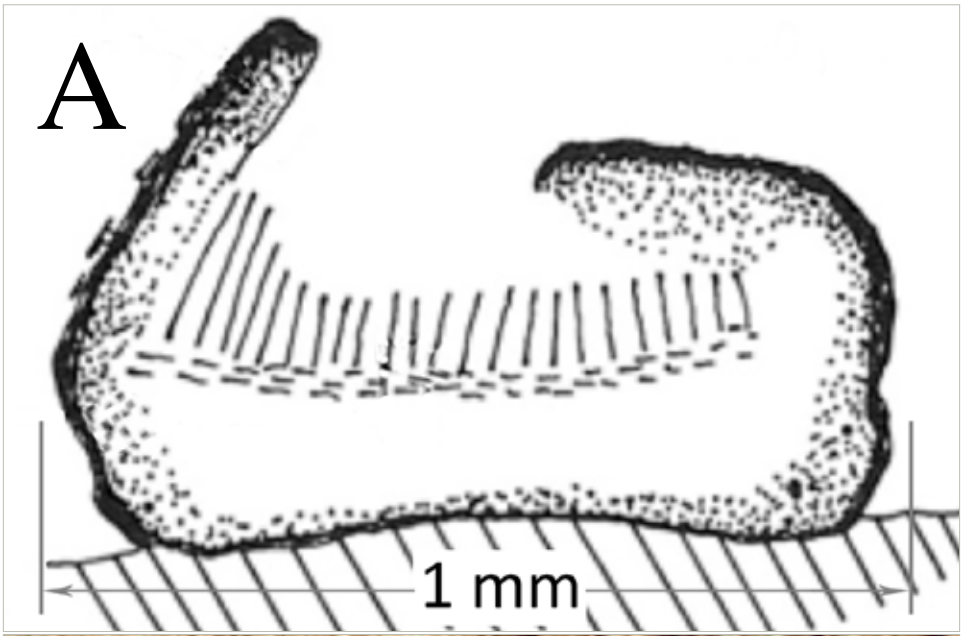
Phone: ..... E-mail: .....

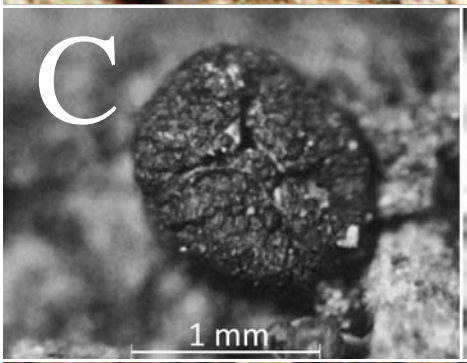
Please check one:
Registration for Blow Me Down Valley outing ☐ Grand Lake outing ☐ Both ☐

Acknowledgment

I am a voluntary participant in the Foray Newfoundland & Labrador (FNL) *Huangshania novae-fundlandiae* hunt. I understand that such outings have inherent risks, which cannot be eliminated without destroying the unique character of the outing. I understand that although announced by FNL, FNL assumes no responsibility for risk to participants, whether by FNL's action or inaction, or by other causes. FNL has made no attempt to minimize risks involved, has not given assurances to me regarding my safety, and I participate entirely at my own risk. In the event of mishap, no matter the cause, I shall waive, discharge claims and release from liability FNL, its officers, directors, leaders, agents from any and all liability on account of or resulting from personal injury, disability, property damage or death, as well as claims, damages, injuries or losses, whether caused by negligence on my part or the part of FNL, or whether caused by uncontrollable outside forces or by chance. This assumption of risk and release of liability is binding on my heirs, assigns, executors or other administrators and representatives.

Signed: ..... Date: .....





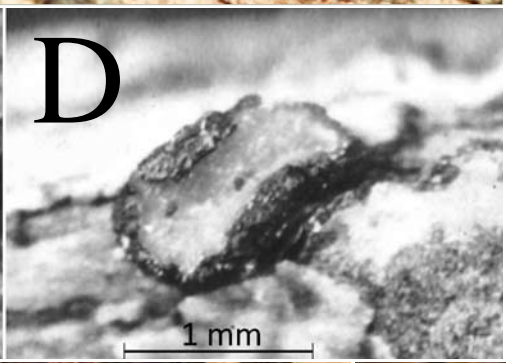


Figure 1. WHAT TO LOOK FOR

Collection of some similar ascomycetes on pine bark to give you a general idea of the appearance of our quarry.

A. Huangshania novae-fundlandiae. *Cross section drawn by Magnes from holotype. Approximate rendering of Rehm's protologue description:* scattered apothecia, initially embedded in bark, forming small groups of sessile closed black globules, opening to flat discs, exposing reddish content.

B. *Holotype of the very similar* Huangshania verrucosa. *Note small round closed cups with irregular cracks producing flaps that will open in good (moist) weather to expose the hymenial surface. Insert: spore; bar = 10 µm.*

C. *The very similar* Triblidium caliciiforme, *showing the irregular cracks of the flattened spherical closed cup, where it will split open.*

D. *Open cup of the somewhat similar* Triblidium hafellneri.

E. *A profusion of similar fruiting bodies of an unidentified* Triblidium *species, mostly open, on pine bark.*

F. *Magnified view of one of the* Triblidium *fruiting bodies shown in E.*

Credits: *A, C, D: Modified from Martin Magnes and Schweitelbart Publishers <www.schweitzerbart.de/9783443590673>.*[2] *B: Ove Eriksson. E, F: Jason Karakehian.*

Figure 2. SOME PRETENDERS & IMPOSTERS

Many small things grow on pine bark. Here are two of similar size. ***A.*** *Eruption lenticels on relatively young bark.* ***B.*** *Apothecia of the crustose lichen* Mycoblastus sanguinarius. *The white, wrinkled and warty crust is the lichen thallus, and the black apothecia open in a nice, symmetrical way, not by flaps created from splitting the tunic; when cut, the content is bright red. Photo: Henry Mann.*

Words about the name (skippable)

Does novae-fundlandiae seem strange to you? In the late 19th century one accepted latinized name for Newfoundland used in Germany was Nova Fundlandia (also written as one word, Novafundlandia). Nova is a straight Latin translation of new, but Fundlandia is latinized altered German, seemingly derived from the past participle, gefundet, of finden (to find) + Land (land). The point is that Rehm followed correct procedure in creating his name, taking the regionally accepted latinized name—quite legitimate, even if it is not a spelling familiar to us.

A second twist was added by Pier Andrea Saccardo, at least for a while, when he added this species to his Sylloge.[4] Saccardo undertook the monumental task of compiling a list of all published fungal names. In the course of this work, he corrected misspelled names and rescued a multitude of names that had been published invalidly, by making valid transfers to preserve the epithets. His Sylloge became the basis upon which Index Fungorum, the current compendium of all fungal names, based its list.

For reasons unknown, Saccardo changed fundlandia to findlandia.[4] This may have been an attempt to use the German finden as a root, but I prefer the much more pedestrian explanation of typographical error, because it is comforting to think that even the greats make them. Transcribing this name to Index Fungorum, a second typo appeared, when the D was inadvertently dropped, making the listed name *Huangshania novae-finlandia*. If I were to move our Island from the Labrador Sea, I should prefer some warmer body of water than the Gulf of Bothnia, but I sympathize with the poor souls charged with writing reams of endless scientific names in mangled Latin. Once Ove Eriksson mentioned the typo to Paul Kirk, curator of Index Fungorum, Kirk changed it back to novae-fundlandiae, but because it was listed on the authoritative site for a while, you will still find several places where it appears as a modern (or nova) version of light mood music by Sibelius.

The only improvement to Rehm's name that I can see, is to use the one-word Novafundlandia for Newfoundland. In addition to bringing the Latin closer to the English original, this would eliminate the hyphen and the separate adjective declension. Such "correction" would respect Rehm's intent, while making the name a little easier for the modern user: Huangshania novafundlandiae is easier to say than Huangshania novae-fundlandiae. Or too much fuss for relatively little gain?

Acknowledgments

I owe thanks to the following: Michael Burzynski, Ove Eriksson, Jason Karakehian, Martin Magnes, Henry Mann and Dmitry Sveshnikov for reviewing the manuscript; illustrators (and publishers), as credited in the captions, for use of their illustrations; Paul Kirk for discussions about name "changes".

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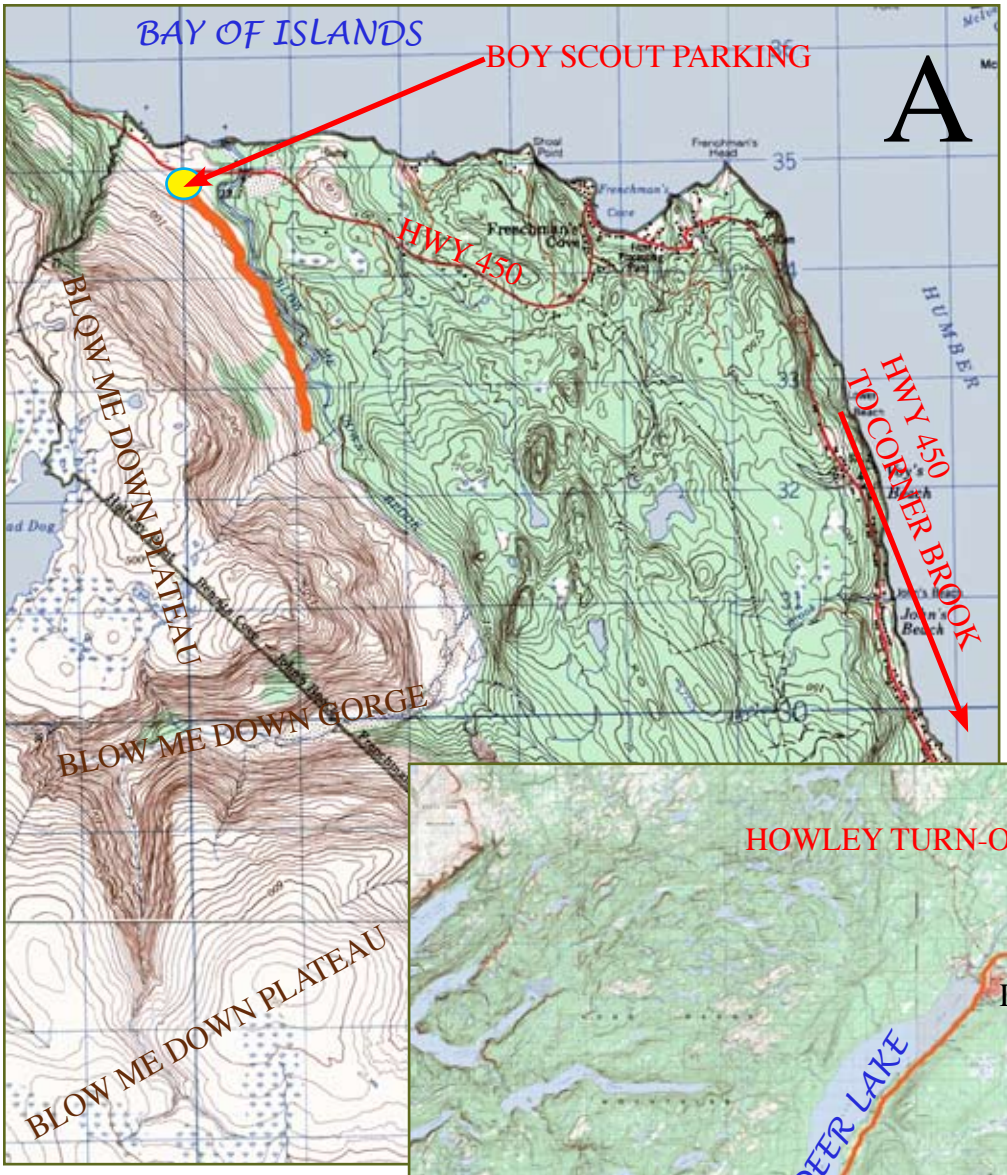

Figure 3A

Blow Me Down Valley

Yellow circle shows parking lot just off Hwy 450. Orange marks beginning of trail, to the west (mountain side) of the Blow Me Down Brook. The mountainside is not as barren as the map suggests, and is home to the oldest eastern white pine in the Atlantic Provinces. These exposed trees are shorter and much more contorted than protected forest trees.

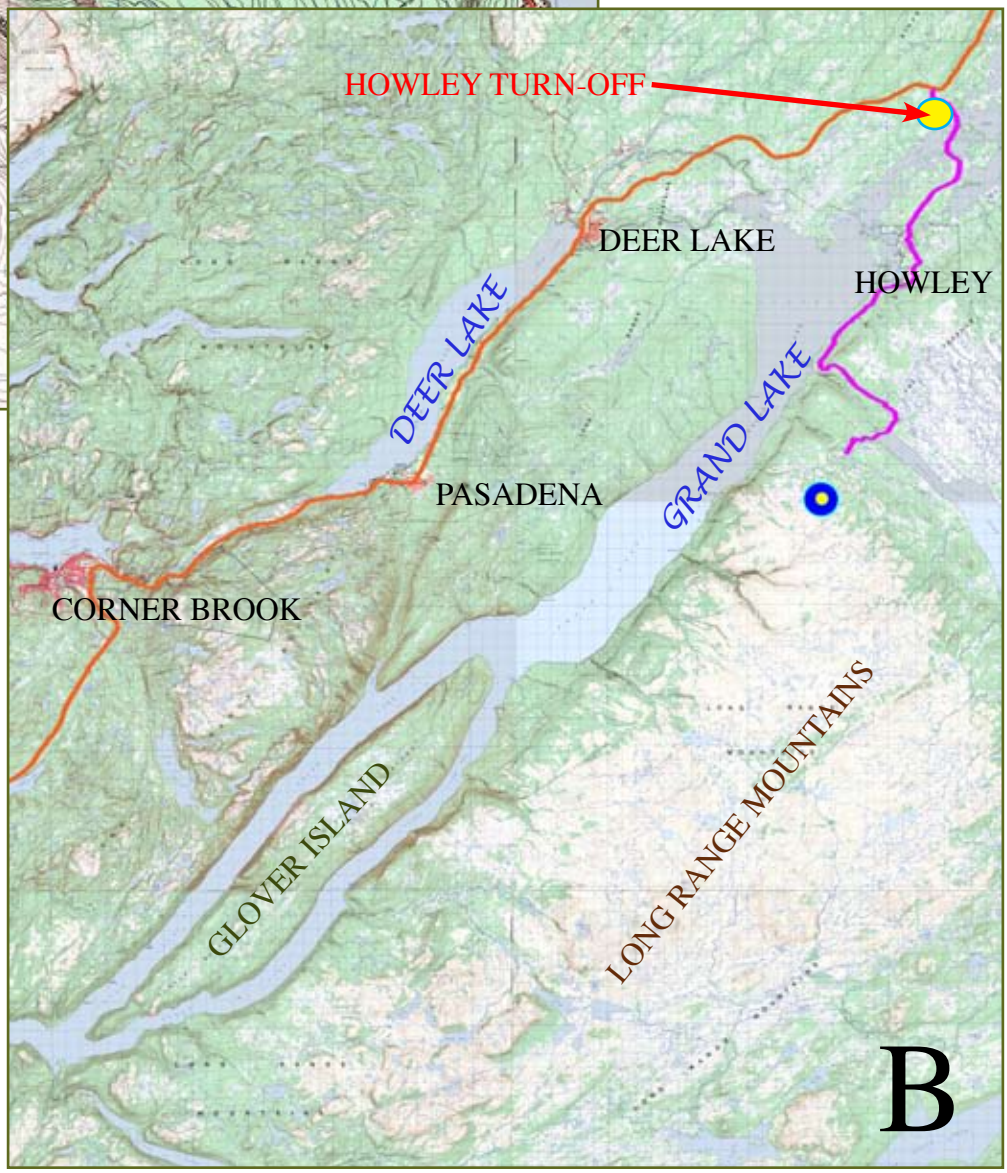

Figure 3B

Grand Lake

Bull's eye shows coordinates reported for Rev. Waghorne's collection, meant to show the general area of Grand Lake, not the exact spot where the specimen came from. It is close to the end of the road to Hind's Lake and Grass Brook spillways, but the Reservoir was not in existence when Waghorne collected the specimen, so that these roads were not built at that time.

When the reservoir raised the water level, many white pine (and other trees) were immersed, and their tops can still be seen if paddling the shoreline. White pine is reasonably common in the forest around the Lake.

THE MAIL BAG

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

Not entirely surprisingly, all our mail dealt with the April 1 gumtruffle. A promise: that was my one and only entry into the April 1 follies. Never again for this editor.

Darn. Secret is out. They exist, Andrus, in decent numbers along the Expliot's River under the hazelnut bushes (Grand Falls-Windsor area is where I went). They are not hard to find. My first attempt found them in 2012.

I'll be shocked if the burgundy species is also not here.

Bill Bryden

Glad to know that's a truffle. For a while I thought it was a cinnamon roll and OMPHALINA was joining the ranks of all those cooking magazines! Whew!

Susan Goldhor

Your picture of the truffle looks like a specimen I saw a few years ago also reported on April 1 called Tuber blanca-norse.

JP Xu

TRUFFLE MAIL from

Michael Beug

first author of
Ascomycetes of North America

Title banner: Tuber oregonense *in title banner.* ***Above:*** *Linda Gallacher and her truffle dog, Bella, a Nova Scotia Duck Tolling Retriever.* ***Left:*** *Truffles in a jar, infusing the odour into eggs, butter, Gouda, Asiago and cream cheese. I reported this most memorable mushroom outing of my life in FUNGI, vol. 9, nr 3. To be able to leave my snow-covered land to go truffle hunting in Oregon in late January was a special treat.*

You certainly sucked me in with your April 1 Truffle issue of Omphalina. As I read the story, I was busy composing a rebuttal pointing out some critical problems with your tale and wondering why truffle dogs I have used have never found any truffles under my wild beaked hazelnuts. I wanted you to know that 1) "Bob" had sent you a fake photo of something that could not possibly be a species of ***Tuber*** since all ***Tuber*** species have marbled flesh, and 2) the world's best tasting ***Tuber*** species are ***Tuber oregonense*** and ***Tuber gibbosum***, both found in Oregon and Washington, exclusively under ***Pseudotsuga menziesii*** var. ***menziesii***, the coastal Douglas fir tree (yet you say that truffles do not grow under conifers!). The only ***Tuber*** in the Pacific Northwest associated with oaks is a small, unnamed truffle I have found thrice while gardening near my ***Quercus garryana*** trees. Since on all three occasions that I have unearthed it, it has been immature (and thus virtually tasteless), I cannot comment on whether or not it will be choice when mature. Though I have brought in truffle dogs twice to check out my property, the only truffle they have found was ***Gautieria monticola***, a Basidiomycete of undistinguished flavor.

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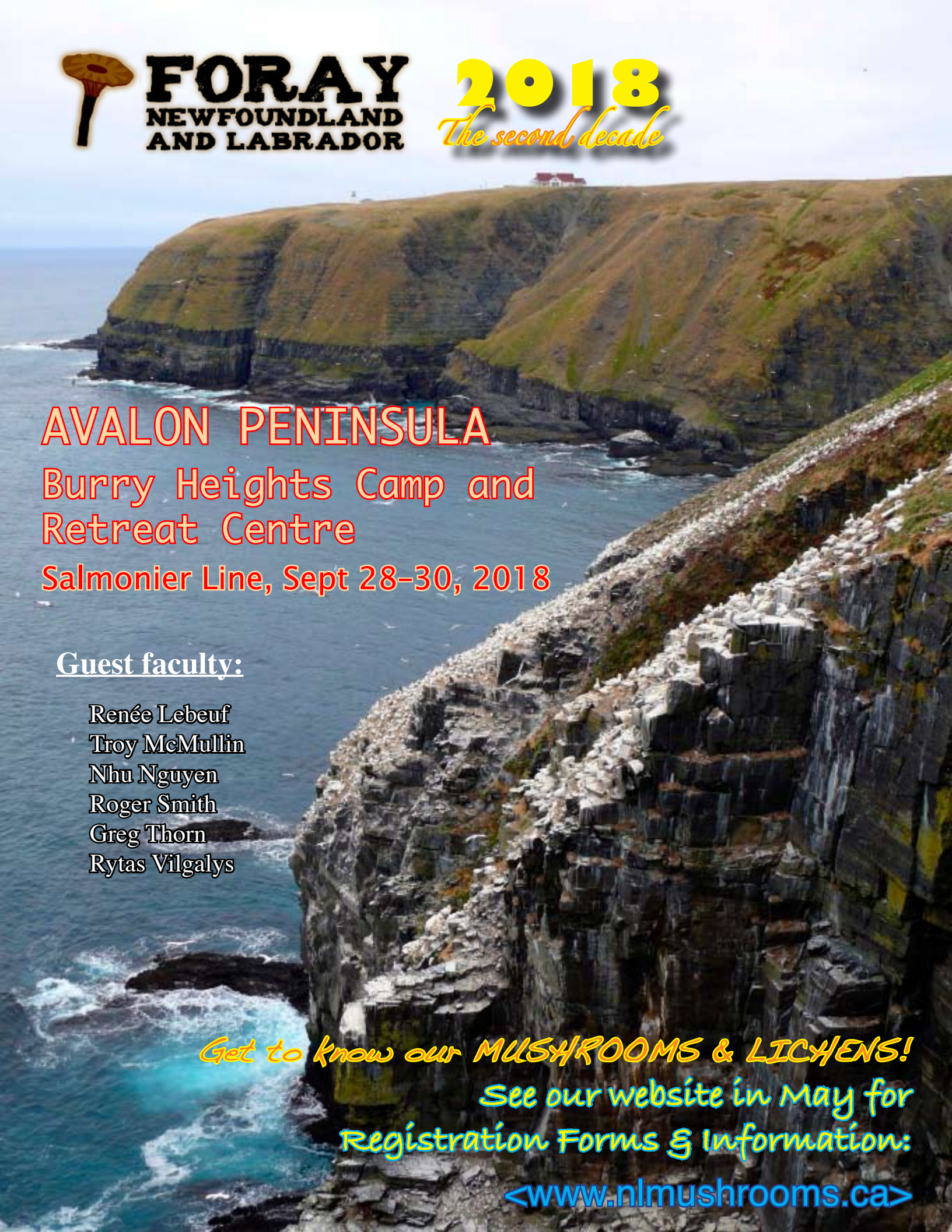

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