



# OMPHALINA



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**Right:** A partly persistent basal cup and dictydine granules produce an incredibly delicate and graceful peridium in *Cribraria languescen*.

**Cover image:** The sporocarps of *Cribraria cancellata*.



# Message from the Editor



Any opportunity to use the words “dog vomit” before an adult audience where nobody bats an eye is a good opportunity. That’s why I’m particularly excited about this year’s Foray; we’ll see those words exhausted before the first day is over.

This issue is a special issue devoted to what some of you may think are our grossest—although certainly some of our most unique—fall finds here in Newfoundland and Labrador: slime moulds! In my mind, however, nothing beats sliding your fingers across the backs of a family of slugs while reaching down to snip off that perfect chanterelle in terms of gross goo factor. But I digress...

Foray faculty member Anna Ronikier and co-author Renato Cainelli have compiled a fascinating article to celebrate the diversity and life cycle of myxomycetes, complete with some jaw-dropping imagery of their fruiting structures. Let us hope we can find some equally remarkable specimens in the forest of the Avalon Peninsula this year.

Looking forward to seeing everyone in a few short weeks. Don’t forget to bring your hand lenses!

Sara

# Myxomycetes

discovering the  
hidden diversity of  
unusual amoebae

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Myxomycetes are truly ubiquitous, but most people are unaware of their existence. What are they and why do they deserve our attention?

Also called plasmodial slime moulds, myxomycetes are a very peculiar group of eukaryotic organisms. Although studied by mycologists, they are not fungi; myxomycetes are protists that belong to the kingdom Amoebozoa<sup>1</sup>. More precisely, they comprise one of the largest groups within amoebozoans, with ca. 1000 species recognized.<sup>2, 3</sup> Although their fruiting bodies appear, at least superficially, to resemble some fungal species with macroscopic fruiting bodies filled with billions of spores—much like puffballs—they are not related to true fungi. They abundantly occur in soils and feed on microorganisms, like bacteria, fungi or algae, thus they play an important role in regulation of microbial communities. They inhabit various ecosystems and vegetation communities and are adapted to extreme environmental and climatic conditions, from high mountain areas to deserts and from tree canopy environments to aquatic habitats.<sup>4, 5</sup>

## Giant Microorganisms

Myxomycetes undergo a complex life cycle, most of which they spend as amoebae or flagellates that function as gametes. In order to be considered a “slime mould” as we would identify in the field, the amoebae must cluster together and reorganize to form the communal reproductive structures that we can identify. After the fusion of gametes they form large to giant, multinucleate, one-celled amoebae called plasmodium (Fig. 1), which are known to move about their environment as a large mass in search of food. Plasmodium subsequently transforms into sporophores filled with spores that give rise to another generation of amoeboflagellates.<sup>6</sup> Plasmodium can reach in some species about half meter in diameter, thus placing some myxomycete species among the largest one-celled organisms on Earth. Interestingly, the



**Figure 1:** Plasmodium creeping out from substrate to form sporophores.

plasmodium of the largest species, *Reticularia lycoperdon* and *Fuligo septica* has been used as a traditional source of food by local people in Mexico.<sup>7</sup>

The spore-hosting structures, sporophores, are a static episode in the myxomycete life cycle, and are macroscopic in appearance. Single sporocarps usually reach approx. 1 mm in diameter. They most frequently occur in large colonies or may even exceed a few cm in the case of compound fructifications. Their structures are not built up of cells or tissues but from transformed parts of plasmodium and spores, created through aggregation of small portions of cytoplasm around nuclei enclosed by a membrane.

## Two main evolutionary groups

There are in general two main phylogenetic groups recognized within Myxomycetes: dark-spored myxomycetes and bright-spored myxomycetes<sup>8</sup> that are easily recognized in the field based on colour of spores en masse. The dark-spored group contains the genus *Physarum* (Fig. 2), which



**Figure 2:** Representative of a genus *Physarum* (*Ph. compressum*).

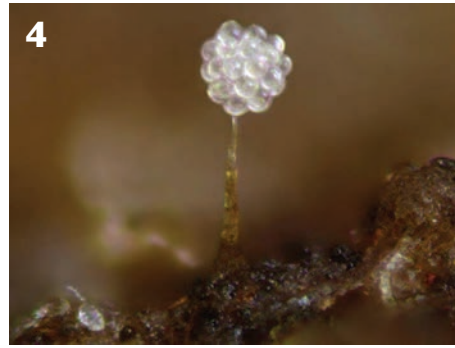
includes the species *P. polycephalum*, a model organism that is intelligent enough to find the shortest path through a labyrinth<sup>9</sup>; *Fuligo septica* (Fig. 3), one of the most common and easy to spot due to large compound fructifications covered with bright yellow cortex (which also bears one of the most entertaining common slime mould names: dog vomit slime mould); and also the smallest species—not visible to naked eye—from the genus *Echinostelium* (Fig. 4), which bears only a few spores at the tip of the stalk.

Noteworthy, the genus *Echinostelium* is an exception within dark-spored group. The species have colourless spores, that is explained by the loss of pigmentation during the evolution.<sup>10</sup> Bright-spored myxomycetes contain, among others, one of the oldest known species, recognized as early as 1729, *Lycogala epidendrum* (as *Lycoperdon*<sup>11</sup>; Fig. 5) and many other species with spore colours ranging from violet (Fig. 6), pink (Fig. 7), green (Fig. 8) to yellow (Fig. 9).

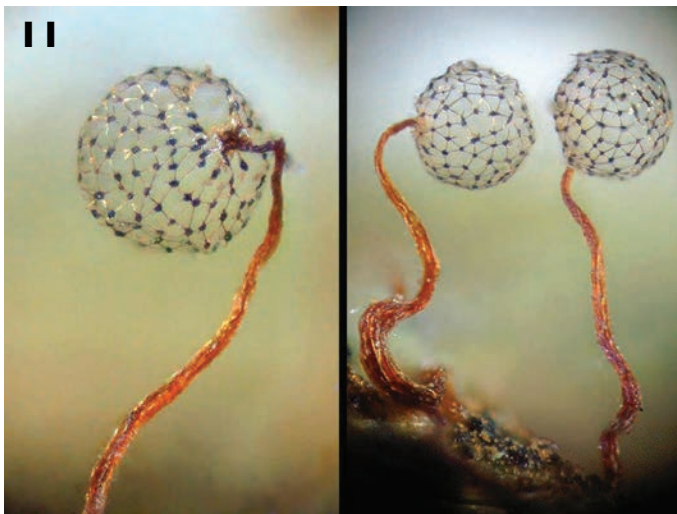
## Diversity of forms and structures

Thanks to the formation of sporophores which bear a number of taxonomically important features, myxomycetes are unique among amoebozoans in that their identification and taxonomic system is based on morphology of fructifications.<sup>12</sup> During transformation from plasmodium into sporophore structures, a surprisingly diverse array of forms and colours are adopted, and it is fascinating to observe how such unique and beautiful structures can be created by an amoeboid organism.

In general, Myxomycetes display several types of sporophores. The simplest plasmodiocarp is the result of a concentration and enclosure of plasmodium by peridium, so the fructification has a morphology similar to the plasmodium (Fig. 9). When the plasmodium becomes fragmented during the concentration process, a group of elongated (plasmodiocarps) or smaller, oblong (sporocarps) entities are formed (Fig. 10). Sporocarpic fructifications are the most common



**Figure 3:** One of the most common and easy to spot *Fuligo septica* forming compound fructifications of a few cm wide; **4:** One of the smallest myxomycetes, *Echinostelium colliculosum*; **5:** Known identified by the 18<sup>th</sup> century, *Lycogala epidendrum*; **6:** Stalked sporophore of *Cribraria violacea* filled with violet spores **7:** A group of sporocarps built up of a stalked calyculus and elastic pink capillitium and spores, *Arcyria oerstedii*; **8:** Open sporocarps of *Licea castanea* filled with greenish spores (photo AR); **9:** Plasmodiocarp of *Hemitrachia serpula* filled with yellow spores and capillitium.



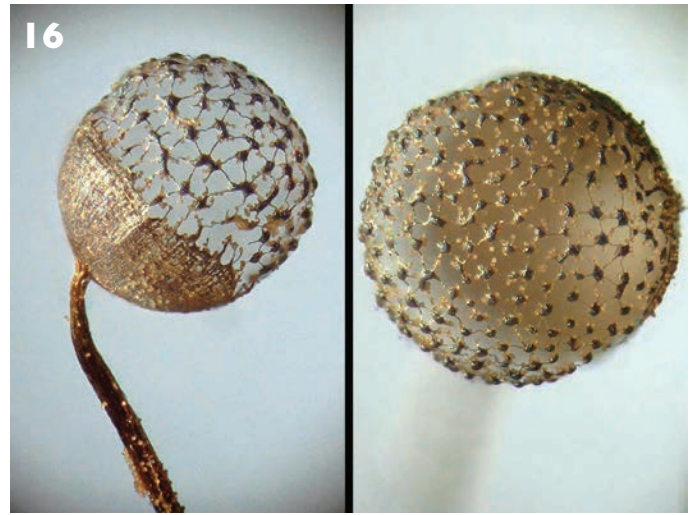
**Figure 10:** Group of short plasmodiocarps and oblong sporocarps of *Lepidoderma chailetii*; **11:** Stalked sporocarps of *Cribraria pachydictyon*; **12:** Sessile sporocarps of *Diderma fallax*.

and diverse and develop by fragmentation of a plasmodium into a large colony of sporocarps, all of which are covered by individual peridia. They can be stalked (Fig. 11) or sessile (Fig. 12). When portions of the plasmodium aggregate and are contained within a common peridium, they form an aethalium (Fig. 13). When the fructification is complex but single sporocarps are recognizable the structure is called pseudoaethalium (Fig. 14).

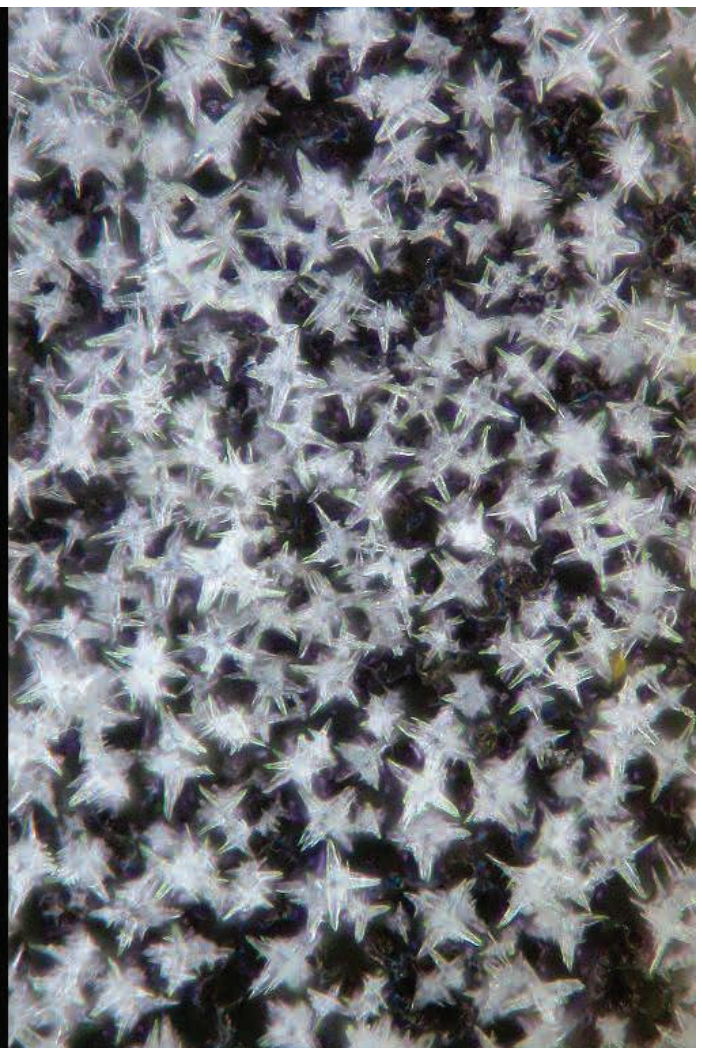
The peridium itself introduces an additional complexity of morphologic forms, and can be either a single, thin, membrane or a thicker wall. Each form has unique adaptations to releasing spores. Thin membranes can be irregularly dehiscent (Fig. 15) or quickly disappearing, leaving behind a network of threads or ribs containing dictydine granules (Fig. 16). Thicker membranes may be brittle and break into irregular parts (Fig. 17), open by an operculum on the top of the sporocarp (Fig. 18), or open by splitting into angular plates along defined lines of dehiscence (Fig. 19). Peridium may also be double- or triple-layered and the outer layer may contain calcium compounds in the form of globules (Fig. 20), stellate crystals (Fig. 21) or crystalline plates (Fig. 22).

Since sporophores are structures produced for dissemination, they always contain spores. Both dark- and bright-spored species produce variously ornamented spores whose morphology ranges from smooth to warted, spiny, or reticulate (Fig. 23). In most myxomycetes, elements which mechanically facilitate spore dispersal are also present. These include columella, an extension of the sporocarp stipe, and capillitium (or pseudocapillitium; differing from capillitium by the origin), which is a system of filamentous structures in the sporocarp that essentially fling spores into the air. In bright-spored myxomycetes, columella and sometimes capillitium may be absent (Fig. 24), but if present, the latter is usually formed by variously ornamented elastic free threads or a network composed of threads or tubes (Fig. 25, 26). Dark-spored myxomycetes usually have a columella that is a continuation of a stalk inside a sporocarp (Fig. 27) or pseudocolumella that is an aggregation of lime from capillitial nodes at the base of a sporocarp (Fig. 28). In sessile sporocarps the columella may be only an elevation of a bottom of a sporocarp (Fig. 29) or a well-developed construction filling large portions of a sporocarp (Fig. 30). For a detailed description of columellae see Poulain *et al.*<sup>13</sup>. Capillitium in the dark-spored group is either formed by dichotomously branched threads connecting columella or sporocarp bottom with peridium (Fig. 30) or in the form of a branched and anastomosing complete or incomplete network of



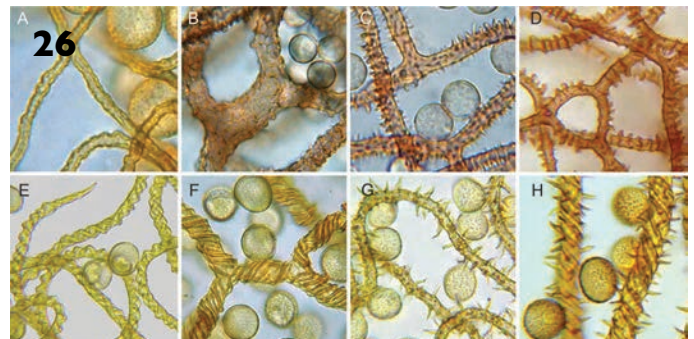
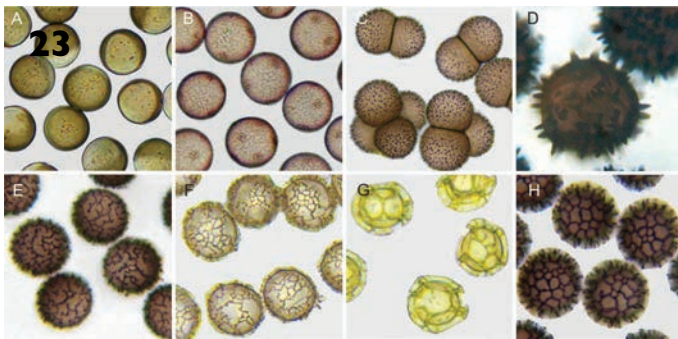


**Figure 13:** A few cm large aethalium of *Lycogala flavofuscum*; **14:** Pseudoaethalium of *Tubifera ferruginosa*; **15:** Single, membranous peridium covering sporocarp of *Lamproderma pulveratum*; **16:** Peridium of *Cibraria languescens* with partially persistent (basal cup) and partly evanescent peridium, leaving a network of threads with dictydine granules at junctions; **17:** Brittle, irregularly dehiscent peridium of *Badhamia gracilis*; **18:** Peridium opening by an apical lid, *Craterium minutum*.

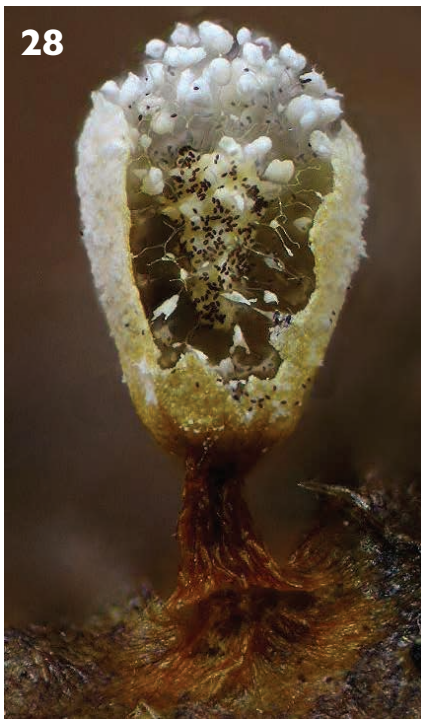


**Figure 19:** Sporocarp of *Licea minima* with defined lines of dehiscence; **20:** Double peridium of *Diderma microcarpum* containing globular calcium carbonate (globules are not visible to naked eye); **21:** Peridium of *Didymium clavus* covered by calcium compounds in the form of stellate crystals.

Facing page, **Figure 22:** Peridium of *Lepidoderma chailletii* covered by calcium compounds in the form of crystalline plates; **23:** Spore ornamentation: (A) smooth, *Licea parasitica*, (B) warted with groups of darker warts, *Physarum pusillum*, (C) spinose at the outer surface, warted elsewhere; spores in clusters, *Badhamia nitens*, (D) strongly spiny, *Lamproderma acanthosporum*, (E) incompletely reticulate *Meriderma carestiae*, (F) with interrupted reticulum, *Dianema subretisporum*, (G) reticulate, *Trichia favoginea*, (H) reticulate, *Lamproderma retirugisporum*; **24:** Sporocarps lacking columella and



capillitium, *Cribraria cancellata*; **25**: Elastic network of capillitial threads attached to the basal lid, *Arcyria pomiformis* (left), mass of single threads inside a sporocarp of *Trichia botrytis* (right); **26**: Capillitium ornamentation: (A) rough, *Perichaena depressa*, (B) reticulate, *Arcyria ferruginea*, (C) composed of half-rings, *Arcydia oerstedii*, (D) composed of half-rings, *Arcyria denudata*, (E) in the form of spirals, *Trichia varia*, (F) in the form of spirals, *Hemitrichia montana*, (G) prominently spiny, *Perichaena chryso sperma*, (H) in the form of spirals covered by spines, *Metatrichia vesparium*; **27**: Columella as a continuation of a stalk, *Lamproderma* sp.



**Figure 28:** Pseudo-columella inside a sporocarp of *Craterium leucocephalum*;  
**29:** Columella in the form of an elevated base on the sporocarp of *Diderma spumarioides*;  
**30:** Well-developed columella with a dichotomously branched capillitial threads connecting it with peridium, *Diderma cingulatum*.



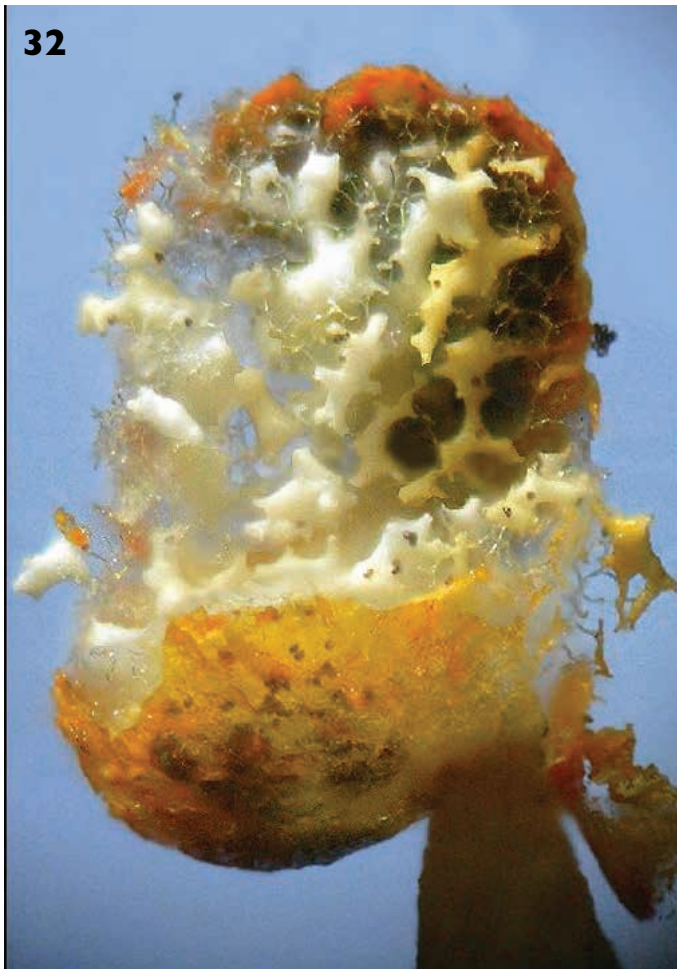
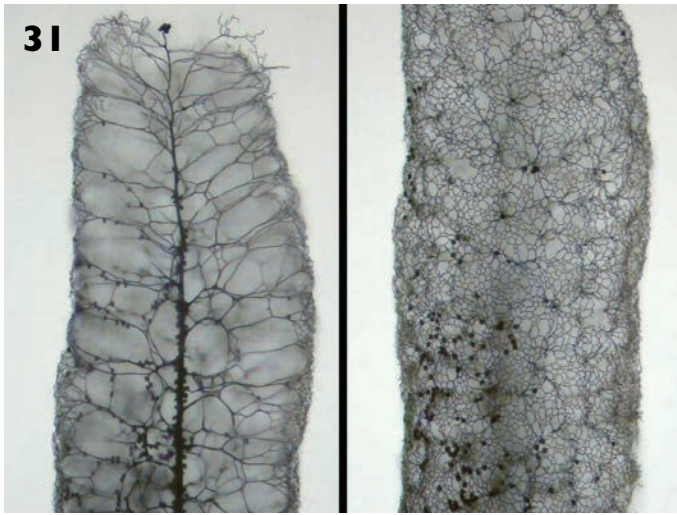
threads originating from the columella (Fig. 31). Capillitium can also be calcified; the accumulations of calcium in capillitium are called nodes (Fig. 32). All of these structural aspects are important for classification and identification of myxomycete taxa.

## Myxomycete ecology

Myxomycetes can be found in all of Earth's ecosystems<sup>4,5</sup>, but in temperate to subarctic regions they commonly inhabit forested landscapes where they are easily found on wood substrates (Fig. 33) or on the forest floor on various litter elements like leaves, twigs or even, a snail shell (Fig. 34). Some species' distribution is limited to specific substrates, such as the wood of conifers, while others prefer forest floor litter or defined litter elements. For instance, *Arcyria marginounulata* is known to occur on inflorescences of *Quercus serrata*, *Castanea crenata* and *Alnus* cones.<sup>13</sup> There is also a group of coprophilous species.<sup>14</sup> Depending on species, myxomycetes can be weakly or strongly substrate-specific. However, because they feed on bacteria and other microorganisms, they are actually expressing a preference for the microorganisms typical for a given substrate than with the substrate itself. The plasmodium creep out from the substrate and can often be found at some distance from the source of food. This is why accidentally, myxomycetes can be found on unusual materials—including on living animals. *Physarum pusillum* was recorded on a living body of a tropical lizard *Corytophanes cristatus*, that tends to remain motionless for periods of time.<sup>15</sup>

For a slimy plasmodium (Fig. 1) that certainly needs moisture to live, it may be surprising that myxomycetes can even inhabit the driest ecosystems on Earth. There is a group of species associated with cacti and succulents; these can grow inside decaying cactus stems or cladodes.<sup>16</sup> Importantly, myxomycetes are able to persist in dormant stages as microcysts and sclerotia which help them survive dry periods.

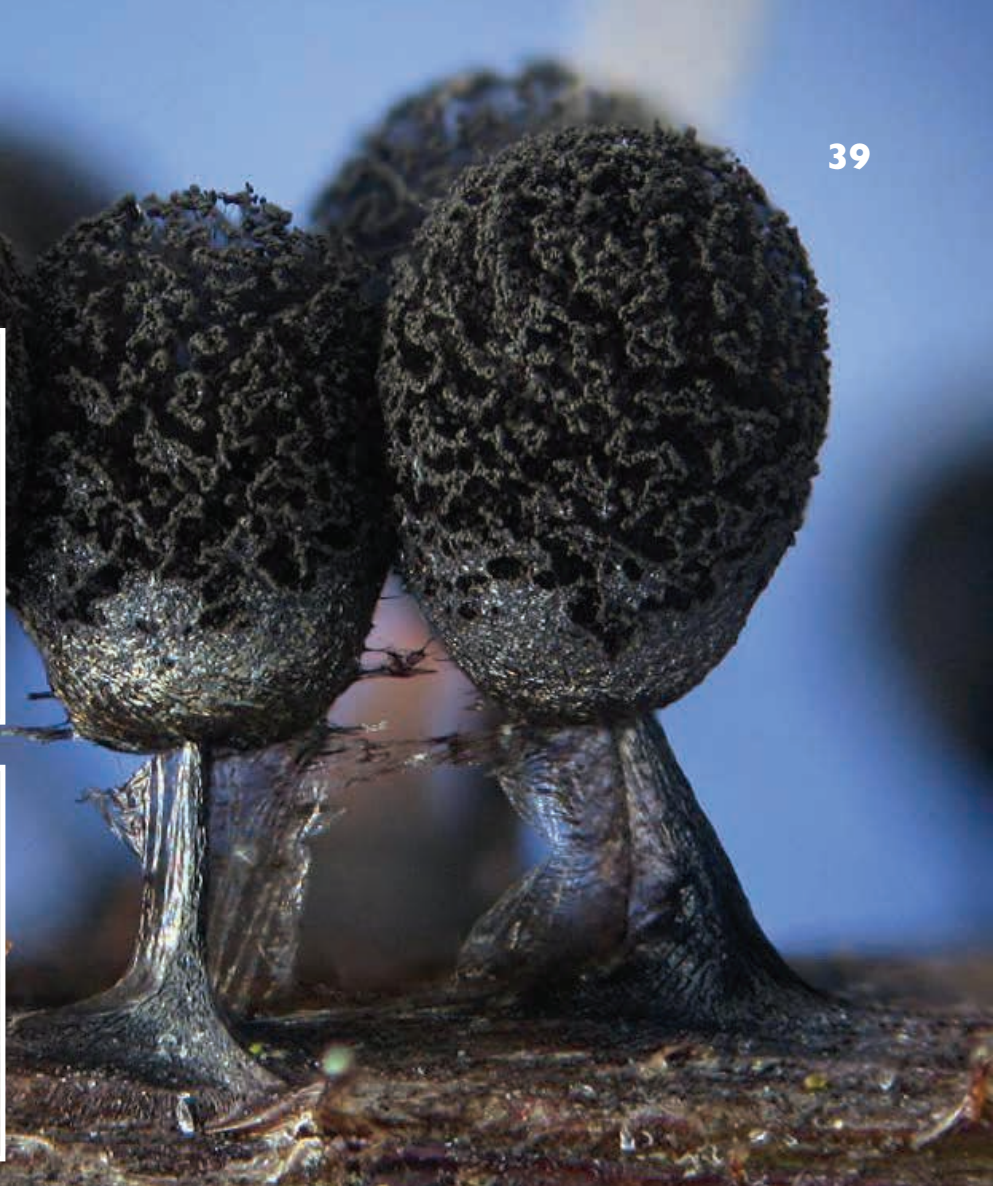
Another ecologically peculiar group of myxomycetes are the nivicolous slime moulds. These are phylogenetically diverse but share similar ecological preferences and occur in places where long-lasting snow cover is present.<sup>17</sup> They are essentially mountain species. They are easily to spot due to formation of large volumes of tiny sporophores (Fig. 35) of various colours: white (Fig. 36), yellow (Fig. 37), various shades of blue (Fig. 38), or black (Fig. 39), but only during the snow thawing period in spring or early summer. In other months, they remain hidden in their dormant stages in soil.



**Figure 31:** Originating from columella, *Stemonitis* sp. forms almost a complete network of threads; **32:** Strongly calcified capillitium of *Physarum melleum* with prominent white to yellowish, multiangular nodes; **33:** *Prototrichia metallica* growing on wood; **34:** Young fructifications of *Physarum cinereum* occurring on litter elements. Note unusual substrate – a snail shell; **35:** Large colonies of white sporophores of *Diderma alpinum* covering plant shoots (photo AR).



**Figure 36:** Pure white sporophores of *Diderma europaeum*; **37:** Yellow sporocarps of *Physarum albescens*; **38:** Colony of indigo sporocarps of *Lamproderma pulchellum*; **39:** Black sporocarps of *Meriderma carestiae*, covered with evanescent peridium that patches remains in patches, attached to the ends of the capillitial threads, producing the characteristic funnel shape of the genus.



They, however, do not creep out of soil every year. Their exact ecological preferences are not fully understood, but it has been discovered that under the right conditions, winter snow cover shelters them from winter freezing temperatures. When in the preceding autumn snow falls before first frost they are protected against cold until spring, when they form sporophores, but when snow fall comes after the first winter frost, soil under snow cover remains frozen and amoebae cannot complete their life cycle.<sup>18</sup>

### Collection always possible

During unfavourable conditions or in dry areas (deserts) it is sometimes difficult to find myxomycete sporophores in the field, but collection of species is still possible. Culturing myxomycetes using the moist chamber culture method (e.g. Stephenson<sup>19</sup>) enables us to obtain sporophores from collected substrates. This method is widely used to either describe the species diversity in the regions of extremely dry climate or as a complementary method to obtain more complex diversity at a given locality, including species that fruit less frequently or are either too small or too delicate to be noticed in the field (e.g.<sup>20, 21</sup>). Unfortunately,

however, nivicolous species are difficult to obtain in moist chamber cultures.<sup>22</sup>

Keeping in mind the unusual diversity of colours and forms of myxomycete species on one hand and being aware that most sporocarps are about 1 mm in diameter on the other, you need to be very attentive and patient to spot them in the field. Recommended field equipment includes a hand lens to better see the collected specimens, and boxes to preserve and protect the brittle sporophores. Back in the lab, the real diversity and beauty of collected specimens is accentuated with stereoscopic and light microscopy.

It is impossible to describe all aspects of morphological diversity and ecological preferences of myxomycetes in a short article. Undoubtedly, plasmodial slime moulds, although poorly known, are one of the most common, diverse and fascinating groups of organisms. We hope this short summary will help you discover at least some interesting aspects of the life cycle and diversity of these unusual amoebae.

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## Selected Glossary of Terms

capillitium – the system of threads or tubes (single or in the form of reticulum) inside the sporocarp, facilitating spore dispersal; the word recalls the Latin adjective for “relating to the hair”, *capillaris*.

dehiscence – the opening of the sporocarp by splitting the peridium; from the Latin verb *hiscō*, “to yawn or gape”, which recalls the way the sporocarp splits open.

myxomycetes – protists belonging to the kingdom Amoebozoa, organisms not related to fungi; plasmodial slime moulds; word derived from the combination of Greek terminology *myxo* for “slime or mucus” and *myco* for “fungus”

operculum – the lid on the top of the sporocarp opening during dehiscence; term derived from the Latin verb *operire*, “to cover”, from which the noun *operculum*, “little cover or lid” is derived.

peridium – the outer envelope of the sporocarp; from the new Latin derivative of Greek *pēra*, the diminutive form indicating a “small bag”.

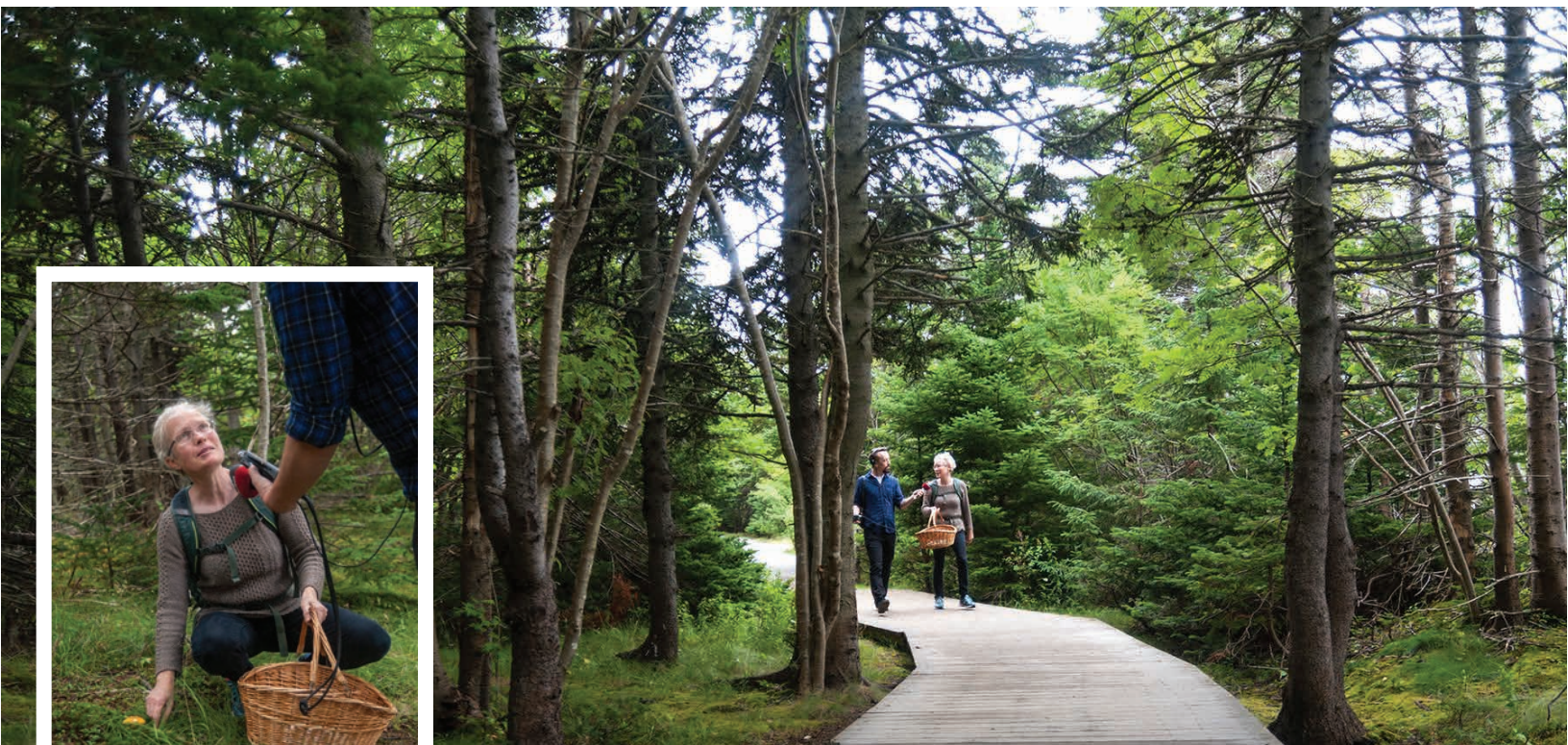
sporocarp – the separate entity of sporocarpic fructification type, sporocarps appear in groups or large colonies in sporocarpic sporophores or are components of compound fructifications.

sporophore – spore-bearing structures, fruiting bodies; four types of myxomycete sporophores are recognized: sporocarp, plasmodiocarp, aethalium and pseudoaethalium; from the Ancient Greek word for “seed”, *sporos*, + *phoros* for “bearing or carrying”.



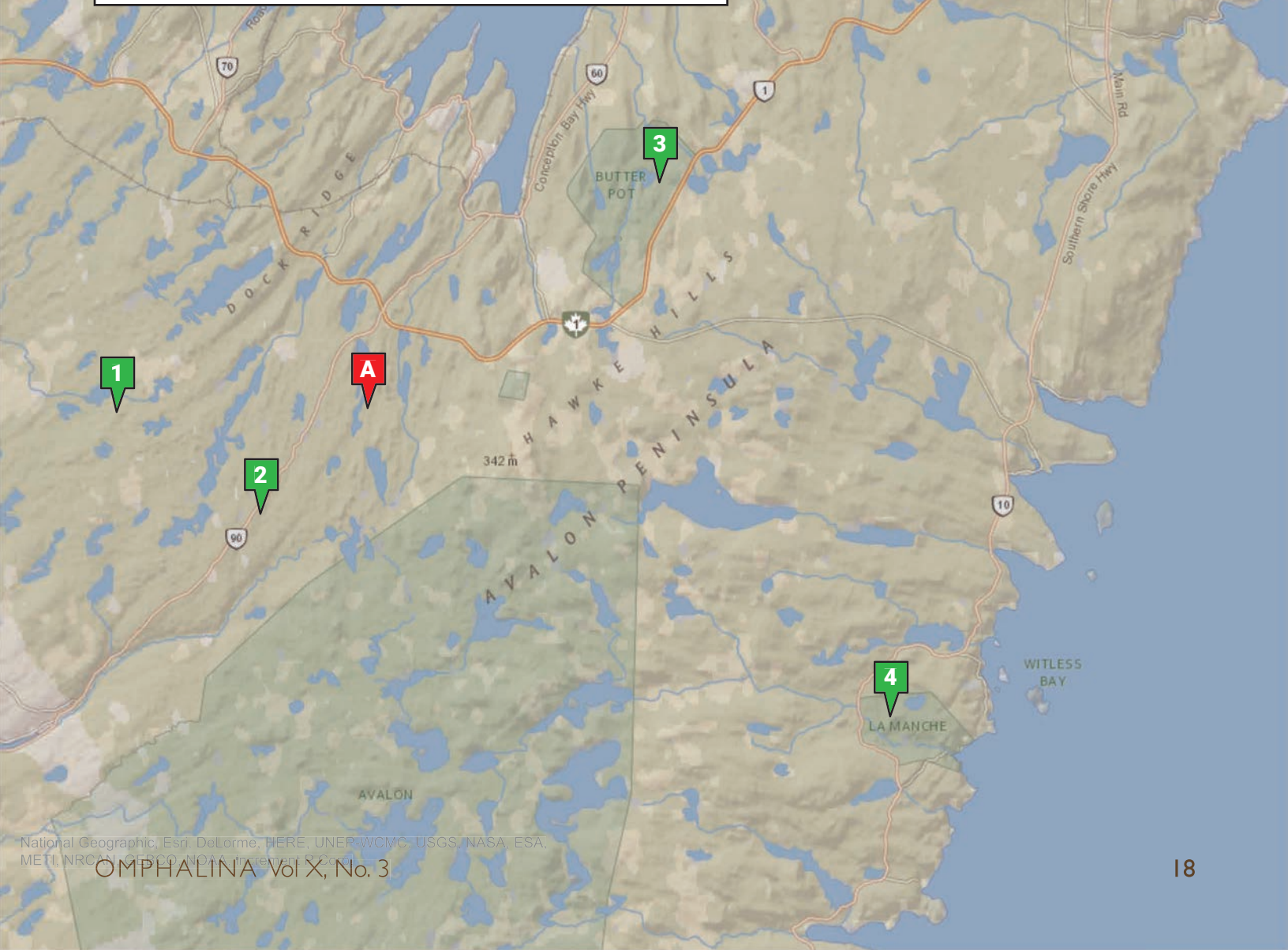
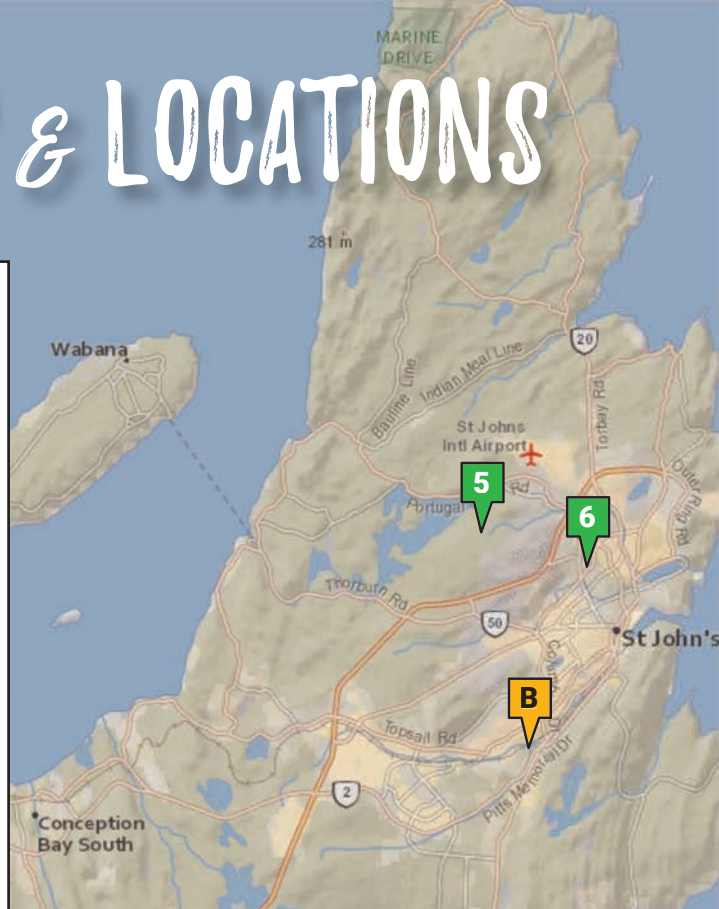
# Foray Matters

It's almost here! Foray NL board member, Helen Spencer, was recently interviewed by CBC reporter Jonny Hodder in St. John's, NL. Keep your ears open for the story, in which Helen spoke about the Foray event itself, and how it both showcases our provincial diversity, and also serves as an important educational opportunity for the mycological community.



# FORAY 2019 TRAILS & LOCATIONS

- 1 - Brother Brennan Centre**
  - 2 - Area south of Salmonier Nature Park**
  - 3 - Butter Pot Provincial Park**
  - 4 - La Manche Provincial Park**
  - 5 - Pippy Park: Parkers Pond Road area**
  - 6 - Pippy Park: Long Pond & Fluvarium**
- 
- A - Burry Heights Camp & Retreat**
  - B - Bowring Park Mycoblitz (Friday)**



# FORAY WORKSHOPS

## FUNGI IN THEIR NATURAL HABITATS

### **Lichen Walk and Talk**

Join forest ecologist André Arsenault in a stroll through the boreal forest and learn about the fascinating features and habits of lichens.

### **Mushroom Walk and Talk**

Join mycologist Renée Lebeuf in a wander through the boreal forest and learn about the wonderful world of mushrooms.

### **Photographing Mushrooms**

Roger Smith, the Foray's long time official mushroom photographer, will give a short presentation on basic techniques and then take you out in the field for some hands-on practice. There will be an emphasis on using point and shoot cameras (including cell phones), but DSLRs and macro lenses will also be covered.

## FUNGI AS FOOD

### **Pick for the Pot**

Bill Bryden, wild mushroom cultivator extraordinaire, will accompany you in the woods as you search out edible wild mushrooms to take home with you.

### **Cooking with Mushrooms, from soup to nuts**

Create a superior chanterelles soup, a wild mushroom and cashew paté and mushrooms preserved in oil with writer and mushroom enthusiast Robin McGrath. Max 12 participants (1 hour)

### **Preserving the Harvest**

Professional forager, Shawn Dawson, will demonstrate some techniques for keeping your mushrooms beyond the foraging season. Max 12 participants (1 hour)

### **Cultivating Mushrooms**

Organic mushroom farmer, Mark Wilson, will take you through the steps of inoculating coffee to grow your own mushrooms. Introduce effective composting in the home and office while growing your own mushrooms. Max 12 participants. (1 hour)

## FUNGI AS ART

### **Watercolour workshop**

Paint delightful watercolour images of mushrooms under the guidance of botanical artist Glynn Bishop. Cost \$40 (\$32 for paints and \$18 for book) or bring your own. Max 12 participants.

### **Dying with Mushrooms**

Learn some techniques for dying yarn using mushrooms with Lisa VanNostrand, art and science teacher and co-owner of Newfoundland's craft business "Posie Egg Emporium". \$10 fee for materials. Max 12 participants (2 hours)

## LEARN YOUR FUNGI

### **Table tours with an expert**

Spend an hour with a mushroom expert as they share their knowledge of the mushrooms identified during the Foray excursions. There will be four 1-hr table tours available, each with one of four on-site experts.



# FORAY NEWFOUNDLAND AND LABRADOR

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

Salmonier Line, September 13, 14 & 15, 2019

Space is limited, so registrations are accepted on a **first-come firstserved** basis. 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**. Print and sign both pages of this registration form and send, with your payment, to

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

We can accept payment by cheque (made out to "Foray NL"), cash, or e-transfer (add recipient: info@nlmushrooms.ca; use password ForayNL).

### Registration

Name: \_\_\_\_\_

Street: \_\_\_\_\_

City: \_\_\_\_\_ Province/State: \_\_\_\_\_ Code: \_\_\_\_\_ Country: \_\_\_\_\_

Tel: ( ) - \_\_\_\_\_ e-mail: \_\_\_\_\_

### Participation fees (in Canadian dollars)

Adult (includes registration fee, accommodations for two nights, meals (reception, two breakfasts, Saturday bag lunch, Saturday supper, Sunday lunch), workshops (except materials), lectures, trails, and other activities)..... \$265.00 \_\_\_\_\_

Youth 13 to 17 pay 50% (Children 12 or younger participate for free)..... \$130.00 \_\_\_\_\_

Database Team: Students - no fee; Non-student team veterans 50%\* ..... \$130.00 \_\_\_\_\_

Your membership in Foray NL is included in the participation fee. Membership lasts until the following year's foray.

### Workshop Fees

**Watercolour Workshop with Glynn Bishop.** Limited spaces allotted on a first-come first-served basis. If the session is full, your fee will be refunded; fee is \$42.00 (paints \$26 and book \$16); no fee if you bring your own..... + \_\_\_\_\_

**Dyeing with Mushrooms with Lisa VanNostrand.** Fee is \$10 for materials..... + \_\_\_\_\_

Other workshops are available for registration on-site in September. A small fee may be associated with some workshops and can be paid at the Foray.

**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 .....

**Please Note:** We often take photographs of Foray participants during events to use on our websites and in our newsletter, Omphalina. As a registered member attending Foray NL, we presume that you agree with our use of a photograph containing your image. If you do NOT wish a photograph of you to be used in this way, please contact us at info@nlmushrooms.ca.

\* 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: \_\_\_\_\_

## Photo Release Statement

*Please Read Carefully*

Unless specifically requested otherwise, by attending the Foray 2019, I hereby grant to Foray Newfoundland and Labrador (“Foray NL”) in Rocky Harbour, NL, the right to reproduce, use, exhibit, display, broadcast, distribute, and create derivative works of the photographed and/or filmed images of me, taken for use in connection with the activities of Foray NL or for promoting, publicizing, or explaining Foray NL and its activities.

This grant includes, without limitation, and without reimbursement, the right to publish such images in Foray NL online communications, our electronic journal (“Omphalina”), and PR/promotional materials, such as event advertisements, fundraising materials, and any other Foray NL published materials. These images may appear in any of the wide variety of formats and media now available to Foray NL, as well as those that may be available in the future, including but not limited to print, broadcast, video, and electronic/online media.

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Version: July 29, 2019



### **This year the Foray is hoping to have a mushroom inspired arts and craft table!**

Interested Foray participants are invited to bring along a few mushroom-related crafts to sell. The Foray will provide the tables, does not charge any commission on sales, and will not take responsibility for any theft or damage. Artisans interested in selling their creations will need to register and provide an estimate of how much table space they require, as space is limited. Please direct Foray Market registrations and other inquiries to Rachelle Dove ([rachelledove709@gmail.com](mailto:rachelledove709@gmail.com)) with subject line “Mushroom Crafts”.

# Our Partner Organizations



## **People of Newfoundland and Labrador, through**

Department of Tourism, Culture, Industry & Innovation  
Provincial Parks Division

Department of Fisheries & Land Resources  
Wildlife Division  
Center for Forest Science and Innovation



## **People of Canada, through**

Parks Canada  
Gros Morne National Park



## **The Gros Morne Co-operating Association**



## **Memorial University of Newfoundland**

St. John's Campus  
Grenfell Campus



## **Tuckamore Lodge**

# WANT TO LEARN MORE ABOUT THE MUSHROOMS AND LICHENS OF NEWFOUNDLAND?



**FORAY**  
NEWFOUNDLAND  
AND LABRADOR

with Guest Faculty\*

\*current to date of publication

SEPTEMBER 13–15, 2019

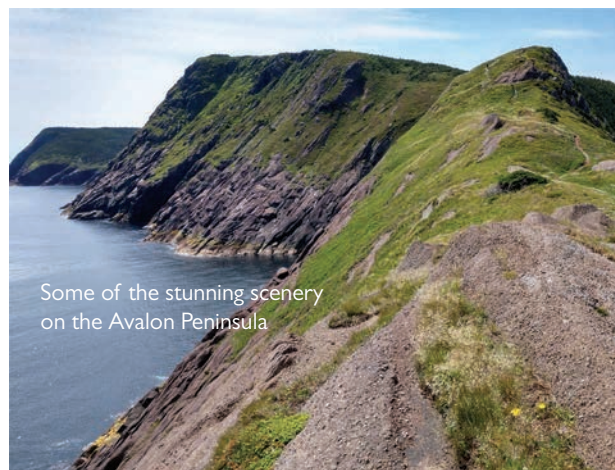
BURRY HEIGHTS CAMP & RETREAT  
CENTRAL AVALON PENINSULA, NL

Renée Lebeuf  
Greg Thorn  
Anna Ronikier  
Alfredo Vizzini

MORE INFORMATION + REGISTRATION: [WWW.NLMUSHROOMS.CA](http://WWW.NLMUSHROOMS.CA)



Foray Faculty Greg Thorn explains some of the finer aspects of the Burry Heights lawn mushrooms



Some of the stunning scenery on the Avalon Peninsula



lichen diversity on display