OMPHALINA

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Happy Christmas & a mycoproductive 2015!

Newsletter of FORAY NEWFOUNDLAND AND LABRADOR

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Dec. 15, 2014

FORAY NEWFOUNDLAND AND LABRADOR

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

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COVER

The rare *Homunculus niveus* examining *Merismodes fasciculata* on *Alnus incana* ssp. *rugosa*. Our Christmas issue is devoted to angel wings. *Merismodes* is not among them. More of a bell than a wing, it could fit thematically, but is reserved for a future issue, after a small project about it is done. Until then, content yourself with this advance photo of a quilt by Maria Voitk, exclusive to OMPHALINA.

Since when is blue a Christmas colour, you wonder? Red-and-green is mostly a commercial concoction of our times. Blue, the colour of heaven, is the colour of virginity, reserved for the outer raiments of the Virgin Mary in early Christian religious art, a most symbolic Christmas colour.

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CONTENT

Message from the Editor

Welcome to our Christmas angel wings issue! What better way to wish you a very merry Christmas and happy new year, or any other good cheer, should you celebrate different events around the winter solstice?

Wings come in all sizes. The really big ones, our versions of the oyster mushroom group, were reviewed in Omphalina 4(6):12-15, 2013: *Pleurotus dryinus*, *Hypsizygus ulmarius*, *Sarcomyxa serotina* and *Neolentinus lepideus*. The mid-size *Sarcomyxa serotina* and the small *Panellus stipticus* were described in The Osprey, 41(3):17-18, 2010, and three small *Panellus* species (*P. ringens*, *P. violaceofulvus*, *P. mitis*) were described in The Osprey 42(1):12-13, 2011. The Osprey has also brought you a discussion of two little brown jelly wings, *Auricularia auricula* and *Exidia crenata*—twice, once, The Osprey 41(2):25, 2010, and the second time to correct the identification, The Osprey 42(3):25, 2011. *Megacollybia rodmannii* was reviewed in Omphalina 3(6):12-13, 2012, and *Lentinellus cochleatus* in Omphalina 3(2):12-13, 2012. *Lentinellus micheneri* awaits the new year. *Pleurocybella porrigens*, the real angel wings, and our commonest mid-size white wing on wood, opens the issue, followed by a description of some of our small white wings on wood, and a few off-white ones.

The above list shows how much information is already stored in our natural history journals. The idea is not to have it all in your head, but to use these journals as a resource. Put the mentioned articles together with those in this issue, and you will have a reasonably complete overview of cap-and-gill type mushrooms that grow like wings on wood in this province. Many of them fruit during thaws all winter round, so you can look for some while out and about.

One of the specially nice things about this Christmas issue is to have Jim Cornish return after a long absence, one not of his making. Hope to see more of you again for the new year, Jim! And, welcome Sarah Graham, who joined us as a small girl in 2006, now offering her first article. And for Christmas Glynn Bishop has given his notebook over to a stamp show.

Collecting information about any group of fungi, like wings on wood, may be as difficult as trying to memorize it. Fortunately, we try to make this part easier for you. On our website we have an Appendix, where we keep a cumulative list of articles that have appeared in Omphalina There you can look up articles by author, topic, or species name, scientific or common. This list is updated at the beginning of each year—an updated Appendix, containing the 2014 published material, should appear soon on our website.

Happy mushrooming in 2015!

andrus

Pleurocybella porrigens —angel wings

To come upon a cluster of pure white wings in the forest surely remains one of the most beautiful sights. It is difficult to capture with the camera, what I see and feel. My first photo of the species (lower, next page,) remains my favourite, even if my technique of the day leaves much to be desired. To me it still evokes the fluttering and magical quality called forth by the common name, angel wings. I am not a fan of common names, but this one is a winner.

Pleurocybella porrigens is a very common fall mushroom, often seen on rotten conifer logs and stumps in our moist and mossy woods. There is nothing else quite like it, so that identification is generally quite easy. It fruits in gregarious clumps of petal-like leaves protruding laterally and slightly upwards from the substrate, gently curved, sides higher than middle, to form a partial funnel down to the lateral stem attachment. The edges curve gently downward and in mature specimens become wavy. The greatest diameter of the leaves, around 4-5 cm on the average, may reach up to 10 cm on occasion. The cap is slightly hygrophanous, opaque, smooth and matte. Some authors describe it as translucent, a feature I have not observed. Gills are decurrent, running the entire length of the underside. Flesh is thin, usually watery, with a mild, pleasant, mushroomy smell. The entire mushroom is pure white, although at times it undergoes some yellowing to ochre tones.

Pleurocybella is a small genus with 5-6 species, of which *P. porrigens* is the most common, with a Holarctic distribution. Phylogenetically it clusters among the hygrophoroids in a small clade with the similar *Phyllotopsis* (containing *P. nidulans* of the beautiful pink spores[1]) and the very dissimilar Typhulaceae (to see the dissimilar appearance of these club-like genetic relatives, see *Macrotyphula fistulosa* var. *contorta*[2]).[3]

Looking like a smaller sister of the delicious oyster mushroom, *P. porrigens* was considered edible, although I thought it thin, without substance or flavour. Then it was reported as toxic, even lethal, to people with compromised kidney function so that it is no longer recommended table fare. Subsequently, the toxin has been identified, as reported on these pages.[4]

We may not eat it, but I still enjoy the looks of this mushroom very much. The title banner is the only time I have seen it on hardwood.

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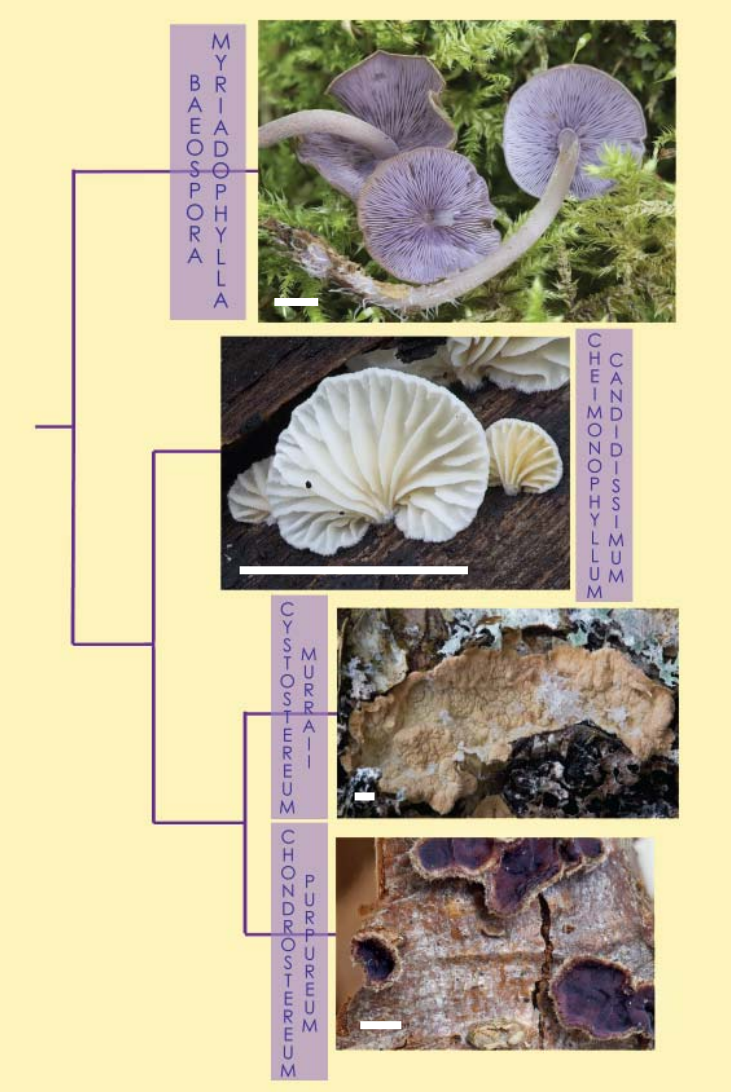
Cheimonophyllum candidssimum

Andrus Voitk, Greg Thorn

The photo in the title banner may make you think you are still in the last article. In many respects *Cheimonophyllum candidissimum* resembles *Pleurocybella porrigens*. The main difference is size: this one is over five times smaller; a fruit body 1 cm in greatest diameter would be considered large, although really big ones can grow to 2. It is the poster mushroom for small white wings on wood.

The cap is very finely hairy, becoming silky, and grooved along the gill lines. Initially the edge is turned in, but soon flattens out and may undulate at maturity. Gills are moderately to widely spaced with a minutely hairy edge. Mushrooms are attached by their sides, usually with no stem, although a rudimentary nubbin may be seen. Spores are nearly spherical. The species grows on dead deciduous wood. Where the host was identified with certainty, in our woods it has been found on mountain maple twice and birch once; for two finds alder was suspected, but not ascertained. It fruits in the fall, seeming to continue right into frost.

Over a decade we have recorded it twice in the foray and AV has made five independent collections. Small things often go unnoticed, so it may be much more common than these numbers indicate. It is not nearly as common as *P. porrigens*, but seems to be at least as



The family tree of *Cheniophyllum candidissimum*, showing close relatives found in Newfoundland and Labrador. This small, delicate white mushroom is a sister to some thick, tough, coloured corticiates, including *Cystostereum murraii* and *Chondrostereum purpureum*. Both of these groups together form a sister clade to a group of small stipitate gilled mushrooms, like the *Baeospora myriadophylla*. *Cheimonophyllum candidissimum* may be white, but there seems to be purple-lilac blood in the family. To give an idea of relative sizes, the white bar in the left lower corner of each picture is 1 cm. This tree does not represent an actual analysis, but is a free adaptation from a study,[1] for the sole purpose to show these relationships. This seeming "progress" made the authors of the study wonder whether it demonstrates evolution from stipitate, gilled mushrooms to wing-like (pleurotoid) gilled mushrooms and eventually to flat (resupinate) ungilled (stereoid) mushrooms.[1]

common as the entire genus *Crepidotus*, to be discussed next.

Cheimonophyllum is a small genus with three known species; there may be additional cryptic species and the genus may be polyphyletic. Only the most white, candidissimum, has been found here. Its phylogeny is discussed with the diagram to the left. All its relatives are also wood rotters.

Like *Pleurocybella porrigens*, this species is also a challenge to photograph. Because of its small size, a macro lens is helpful. Even with all the equipment, it is still a never ending quest for that elusive great picture, so vivid in you mind, that you never seem to be able to capture through the lens.

Reference

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Photo: Maria Voitk

Newfoundland and Labrador

Crimped Gills

–*Plicatura nivea* & *Plicatura crispa*

Henry Mann

Two of our most common wood decay mushrooms found on dead stems and branches of alder and other deciduous wood are the Crimped Gills. They can be found on almost every outing wherever alder grows; one is also found on birch and occasionally on other deciduous trees and shrubs. Some North American authorities, like Jim Ginns and Tom Volk, placed both in the genus *Plicatura*, as *P. nivea* (=*P. alni*) and *P. crispa*, although most European authors and many recent manuals still place the latter in the genus *Plicaturopsis*, as *Plicaturopsis crispa*. A preliminary analysis by Manfred Binder (personal communication) of the only *Plicatura nivea* nuclear sequence available, suggests the two belong to a single genus. For this reason we elect to follow Ginns and Volk in treating both as species of *Plicatura*. Greg Thorn has agreed to study this relationship in more detail, so stay tuned. The name comes from the Latin meaning folded or pleated, referring to the gills. Crispa also refers to the "curly" gills, and nivea means white, like snow. So, if we wished to provide common names for these two we might call them Snowy Crimped Gill and Curly Crimped Gill, possibly to the chagrin of serious taxonomists.

Both species form clusters of overlapping small thin brackets usually less than 2 cm across, each being fan-shaped with moderately lobed margins. Upper surfaces are velvety light brown to deep orange-brown, slightly zoned, and have a white margin. The underside spore producing surfaces are pale to white and have gills that appear as wavy vein-like folds that branch and curl. Crimped refers to these gills that produce a ridged, wrinkled or crinkled surface. The little brackets are soft and pliable when

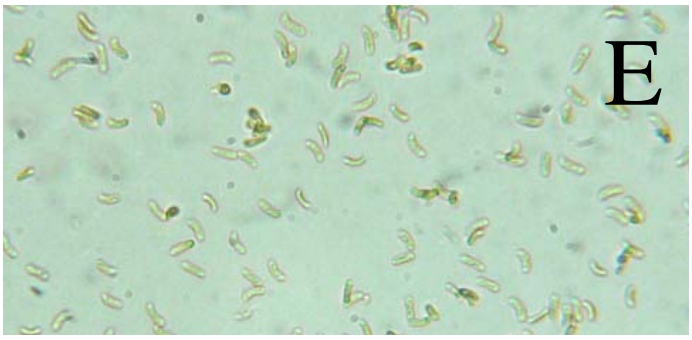
A. Plicatura crispa *on birch twig, upper surface.* ***B****. Lower surface with crimped gills. Caps darker, with more contrasting colours. Fruit bodies remain separate, fixed from an individual central or lateral short stem, and on the underside the gill-folds radiate from that point. Even when crowded, the fruit bodies do not coalesce, and they are not resupinate, even at the underside of the branch. Gray colour of gills is typical.*

wet and tend to harden and curl under when dry, but rehydrate in rain or mist. Interestingly they are functionally true winter mushrooms as on any winter above-zero humid day they can quickly rehydrate and shed copious spores. Both species occur across the northern boreal zone in North America, Europe and Asia.

Once the two have been seen and examined with a hand lens, they can thereafter be readily identified with the unaided eye. The gill surfaces usually give the two away. In *Plicatura crispa* the wrinkly gills are more prominent and distinct, radiating outward from a lateral or central attached base and often have a pale greyish or bluish tinge. In *P. nivea* the gills are less distinct, without a fixed direction, and the whole surface appears wrinkled, crinkled and is snow-white. Its upper surface is usually a darker brown to orange-brown, and the fruit bodies are neither resupinate, nor do they fuse: they arise from separate rudimentary stalks—lateral or central attachments—and hang down like small bells. *P. nivea* is a paler light brown. It is often less shelf-like, growing flat, (resupinate) and fusing into each other to produce a spreading plaque on the branch surface, with the white spore surface exposed and only the margins forming small shelves. Spores are similar in both, sausage or bean shaped, colourless (white), smooth and tiny, only about 4–5 µm long.

Although the crimped gills take on the habit and looks of brackets, they are not in the group traditionally known as bracket fungi (polypores, variously known as shelf fungi, bracket fungi or conks which normally have a porous spore producing surface).

Illustrations, this page. C, D. *Plicatura nivea on alder, its sole host. Caps more velvety, lighter and more evenly coloured, with a tendency to fuse. Lower fruit bodies coalesce and become resupinate. Gill-folds mostly directionless, colour white to cream. See also title banner.* ***E.*** *Spores of* P. crispa. *Spores of both species are alike: colourless, sausage shaped little rods, although reputedly the spores of* P. crispa *turn blue with iodine, whereas those of* P. nivea *remain colourless.*



By their looks the crimped gills have been classified with true gilled mushrooms in the pleurotoid group (mushrooms with a habitus similar to genus *Pleurotus*: white spore print, a rudimentary or no stalk, usually placed off-centre [laterally], and fruiting on wood). Phylogenetically, *P. crispa* has been classified with flat corticiate species in a new order, Amylocorticiales, most of them fully resupinate.

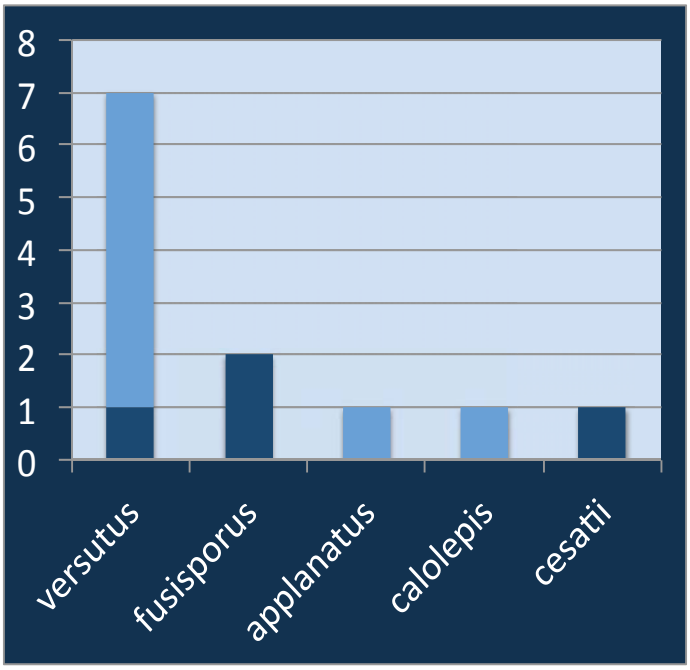
Look for these two especially in the fall and throughout the winter. Bring the dry or frozen brackets home to a warm humid environment and watch them rehydrate to show their pretty features.

The genus *Crepidotus*

in

Newfoundland and Labrador

Andrus Voitk, Greg Thorn



Collections of *Crepidotus* species in a decade. Light blue made by the foray and dark blue by AV at other times. This rate of discovery does not permit development of familiarity with behaviour or macroscopic appearance of the species, so that identification of similar ones depends very much on microscopic features.

The genus *Crepidotus* has seen some tough times over the years, with various species lumped and dumped in it and others split, as concepts changed, until Cathy Aime redefined it in phylogenetic terms.[1] Unfortunately the same degree of stability has not reached the species left in the genus, which are still defined and redefined by varying interpretations. Although over 130 species have been described in North America,[2] in our province it is a relatively small genus. In a decade we have collected five species, most of them only once (Figure 1).

The small fruit bodies grow on wood, either directly attached by the cap (resupinate) or with a lateral attachment by no or a very small, eccentric stem (like a bracket fungus). Caps are small, rarely bigger than 2 cm in the larger species, and vary from white to various brown shades; they are often quite hairy or scaly. The spore print is yellowish tan to brown, quite attractive as brown staining on the gills of pure white specimens.

A brief illustrated description of the species we have identified follows on the next few pages.

Crepidotus fusisporus

The title banner also shows this species. Both collections were made on the same day in the same woods. Hesler and Smith described six varieties of this species.[2] A reassessment of the species has lead others to consider five of the six varieties as one.[3] Predictably, not everybody agrees. The microscopic findings of our two collections place the title banner specimen as var. *fusisporus* and this one as var. *abietinus*, according to Hesler and Smith's descriptions. The latter was originally described from fir, but both our specimens grew on fallen dead branches of birch. The inrolled cap edge is a useful identifying feature.

Crepidotus applanatus

This is one of the larger species of *Crepidotus*, with caps up to 4 cm in greatest diameter. On the mainland it is one of the commoner species, possibly seen more readily because of its larger size, but here we have only collected it once. The cap is characteristically smooth or only very finely hairy, and hygrophanous, usually whitish, becoming gray with moisture or age. Gills are crowded. Found on hardwood in the summer. Microscopically it belongs in the group with distinctly spherical spores.

Crepidotus calolepis

This species is relatively common on the mainland, but in ten years we have only one collection of it here. It is another big species, whose cap can reach up to 5 cm in widest diameter. Many synonymize it with the type species for the genus, *C. mollis*, but we follow Senn-Irlet and others, who separate the two on the basis of cap appearance and spore size. *C. calolepis* has a scaly cap of a gorgeous light orange-brown colour, as seen above even on a dried specimen, whereas the cap of *C. mollis* is smooth; *C. calolepis* also has larger spores.[4] Senn-Irlet describes two varieties, var. *calolepis* and var. *squamulosus*.[4] The latter has larger spores, and were we to make that distinction, ours matches *C. calolepis* var. *squamulosus*.

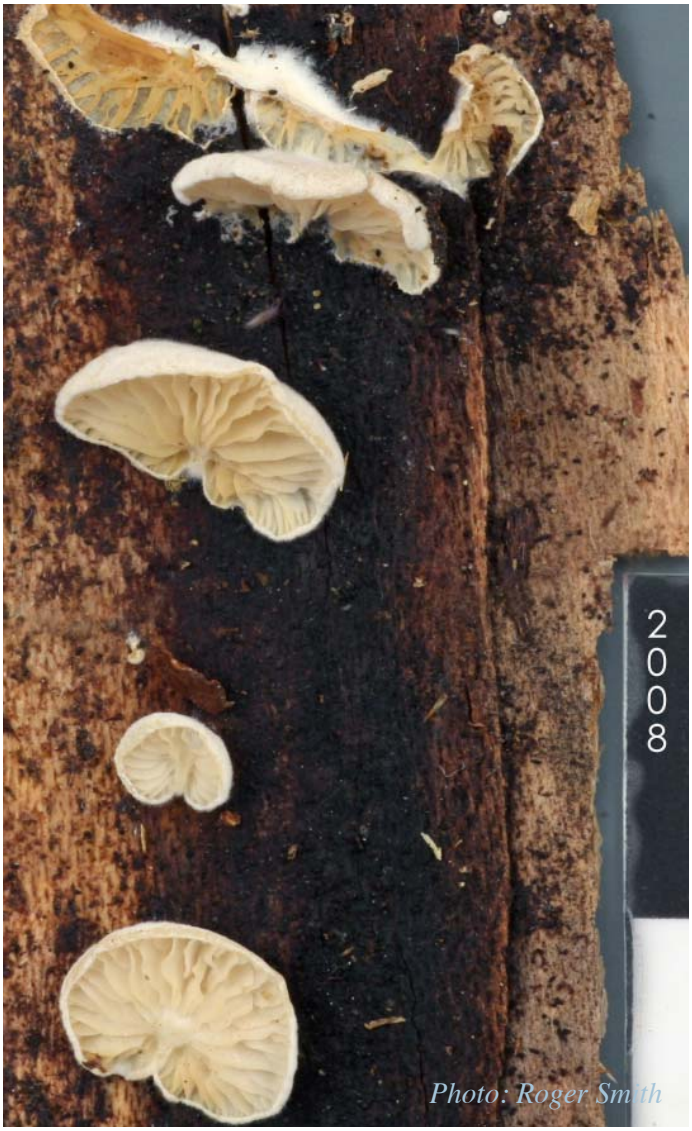
Crepidotus cesatii

We have found only this single sporocarp, growing on balsam fir (together with young *Panellus violaceofulvus* to the left). The macroscopic picture fits with any number of small, white, hairy, resupinate species known to grow on conifer. The microscopic appearance fits best with the European *C. cesatii*, synonymized by some with the European *C. sphaerosporus* and North American *C. variabilis*. Known by small, thin white cap with hairy, inturned edge, distant gills, brown, spiky, almost round spores and a liking for conifers.

Crepidotus versutus

This is known to be a subarctic species[4], and became our commonest species thanks to five collections made in Konrad Brook, Labrador. It is just another small, white, fuzzy *Crepidotus*, begging for a microscope to identify it. And, as you have seen, even then identification is not always easy, because of the different species concepts and interpretations over time, as well as the many small characters that have been awarded significance beyond their worth. More than begging for a microscope, all the species of this genus are begging for a thorough phylogenetic revision.

Until then, you can identify them at least to genus by their brown spores, setting them clearly apart from other small white wings on wood.



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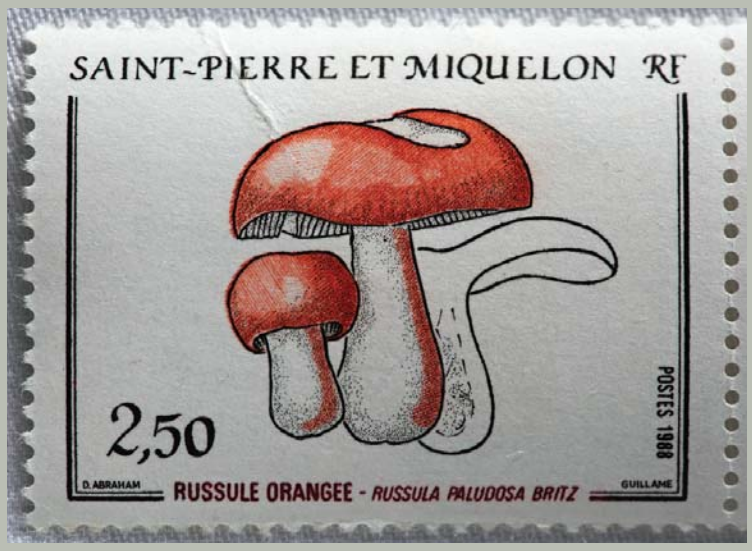
The Bishop's Sketchbook

For the angel wings issue, Glynn is being an angel and giving up his Sketchbook to a colleague, Daniel Abraham from Saint-Pierre et Miquelon. Daniel participated in our foray in 2011. He is very active in the natural history community of his archipelago, with several books to his credit, including one about mushrooms and a second on the way. Here are four fungal stamps of his design.



Schizophyllum commune

—split gills

Sarah Graham

Photo: Andrus Voitk

Schizophyllum is a genus in its own order, Schizophyllales, in the phylum Basidiomycota. The genus contains six wood-rotting species. *Schizophyllum commune* is a very common species worldwide; however, here in the province of Newfoundland and Labrador it is quite uncommon. In 12 years of forays we have not recorded it once, although it has been collected outside the foray [Omphalina 5(2):16, 2014].

Schizophyllum commune grows on wood with a shell shaped cap fixed at a lateral point of attachment. The cap becomes wavy and lobed and is very narrow with a split edge which becomes inrolled when wet. Its is tough, felty and hairy to the touch, and becomes slippery when moist. It can grow up to 4cm in diameter. It is a grayish white in color with pale reddish or gray gills that become split when dried out and appear closed when rehydrated. It is the only known fungus with gills that are split along their length that open and close, depending on varying levels of moisture. This feature gives the genus its common name, split gill (schizo=split, phyllum=gill).

Schizophyllum commune grows on hardwood and causes white rot, a very successful form of wood decay. It is known to colonize burnt wood after forest fires. Fruiting is predominately in the autumn. It is known from every continent except Antarctica where there is no wood to be used as a substrate.

Schizophyllum commune is listed as inedible and has been known to cause a few cases of human mycosis in people with a compromised immune system.

Photo: Andrus Voitk

Panellus stipticus

Jim Cornish

Mushrooms are full of surprises, especially when they are discovered for the first time. For me, misconceptions about what might lie hidden on the underside of a mushroom cap is also the cause of surprises. For example, a few years ago I found my first *Panellus stipticus*. It was growing in a cluster on the side of a decaying alder limb partially hidden by the leaf litter blanketing the forest floor (photo, title banner). Since the cluster was clearly a wood rotter and resembled bracket fungi, I expected to see something like a typical polypore (no stem and an underside covered with some kind of pores) on the underside. To my surprise, I found something completely different (photo, next page). This experience made it quite clear; naively naming, or even grouping, newly discovered mushrooms based on preconceived notions easily leads to mis-identifications. While such fallacies might be a little embarrassing when identifying mushrooms on a nature walk with a friend, they can be downright deadly when collecting edible mushrooms, particularly those with toxic look-a-likes. Because *Panellus stipticus* taught me something important about studying fungi in the field, it is now one of my favourite mushrooms.

Panellus stipticus (Bull.) P. Karst., commonly called the bitter oyster or the luminescent panellus, has a long taxonomic history. It has been shuffled to and from a number of genera since being first named *Agaricus stipticus* by the French botanist Jean Bulliard back in 1783. Today, *P. stipticus* is the type species of the genus *Panellus*, which includes fifty-five species worldwide. Two accounts of the origin of the name have emerged. One account suggests panellus means "little tumor", while the other suggests it means "little loaf". Both, no doubt, refer to how the mushroom looks on its substrate. The specific epithet stipticus is from the Greek equivalent of the Latin word astringens- any chemical that contracts tissue. Purportedly, *Panellus stipticus* can be used to stop bleeding.

Panellus stipticus is a white rot saprobe that first appears as tiny white knobs on birch and alder in Newfoundland and Labrador, as well as beech and oak elsewhere. As the mushroom matures, the knobs grow into overlapping clusters of fan-shaped caps that are typically convex with incurved and often scalloped margins. Since the mushroom appears bracket-like when viewed from above, at first glance it can easily be mistaken for a polypore. Caps usually measure less than 1-3cm across and are typically dry, off-white to tan in colour and covered in fibers. Older specimens often appear scurfy or minutely scaly, giving them a mottled appearance. The mushroom's flesh is thin and although tough, it is quite flexible when wet. The underside of each cap is attached to its substrate by a short, narrow, dull-white stem that is eccentric and tapered toward the base. The stem is typically 0.6 to 1.2 cm long by 0.3 to 0.8 cm thick and covered in white to tan coloured wooly fibers. The abrupt line that separates the stem from the gills is clearly visible even without a lens and is a telltale characteristic that separates *P. stipticus* from other members of the genus. The gills are typically pinkish brown, narrow, closely spaced and attached. The spores are white. *Panellus stipticus* is an annual, fruiting in the cooler months of the season, and during thaws that punctuate our winters. The mushroom is considered too small and bitter to be edible. Although widely distributed in North America, it is more common in the eastern part of the continent.

Panellus stipticus is one of more than 70 bioluminescent species of fungi known to exist worldwide. This bioluminescence results from the oxidization of a pigment known as luciferin by the enzyme luciferase. Studies have shown that peak luminescence occurs at specific hours of the day (late afternoon and early evening) and often corresponds with the mushroom's developmental stages. For the first 6-10 days when it is in its primary growth phase, the mushroom is non-luminescent. During the next 3-5 days of linear growth, it shows a rapid increase in luminescence. This is followed by a quick decline as the mushroom ages. Studies have also shown that luminescence is absent in species outside of eastern North America. It is assumed that bioluminescence in mushrooms attracts insects to aid spore dispersal and attract predators of the insects that frequent and feed on the mushrooms.

Bioluminescence of *Panellus stipticus*. The bioluminescent shot was made in a darkened room with a 5 minute exposure. The light exposure lasted 1 second. Photo courtesy of Kent Loeffler, Cornell University.

On the wings of a predator ~~an angel~~

Greg Thorn

Back in the 1980s, George Barron suggested I test cultures of all the pleurotoid fungi* for their ability to attack nematodes. From his earlier work we expected that species of *Hohenbuehelia* would attack nematodes, but that all other pleurotoids would not. Well, we got a real surprise with *Pleurotus*—it, too, attacked and consumed nematodes! The cultures of other pleurotoid fungi and many other Agaricomycetes, (see Figure 1) did nothing to nematodes, and gradually became overrun by swarming, wriggling masses of these eelworms.

It turned out that *Pleurotus* has a different method of attacking the nematodes: first it poisons them with tiny droplets of toxin (decene-dioic acid, a short fatty acid) produced on its assimilative hyphae, and then it grows into the paralyzed prey. *Hohenbuehelia* produces "sticky knobs"—larger, mucilaginous drops—that adhere to the cuticle of a passing nematode, and then penetrate, colonize and digest it.

Now, in the age of DNA based phylogeny, we find that *Pleurotus* and *Hohenbuehelia* are sister genera (top of Figure 1) and far removed from the other pleurotoid fungi, even those with white spores such as *Cheimonophyllum*, *Pleurocybella*, *Schizophyllum*, or *Panellus*.[1] It is perhaps not surprising then, that these others do not share this unique nutritional mode of the Pleurotaceae. However, all of these, and most other decay fungi among the Agaricomycetes, do attack and consume colonies of living bacteria, when tested on non-nutrient agar in the lab.[2]

"Why would they do that?" you ask. Well, for the same reason members of Pleurotaceae eat nematodes. All of these fungi have the same problem: they eat a diet rich in carbon (wood is mostly composed of modified sugars) and very poor in nitrogen, which they need to build their

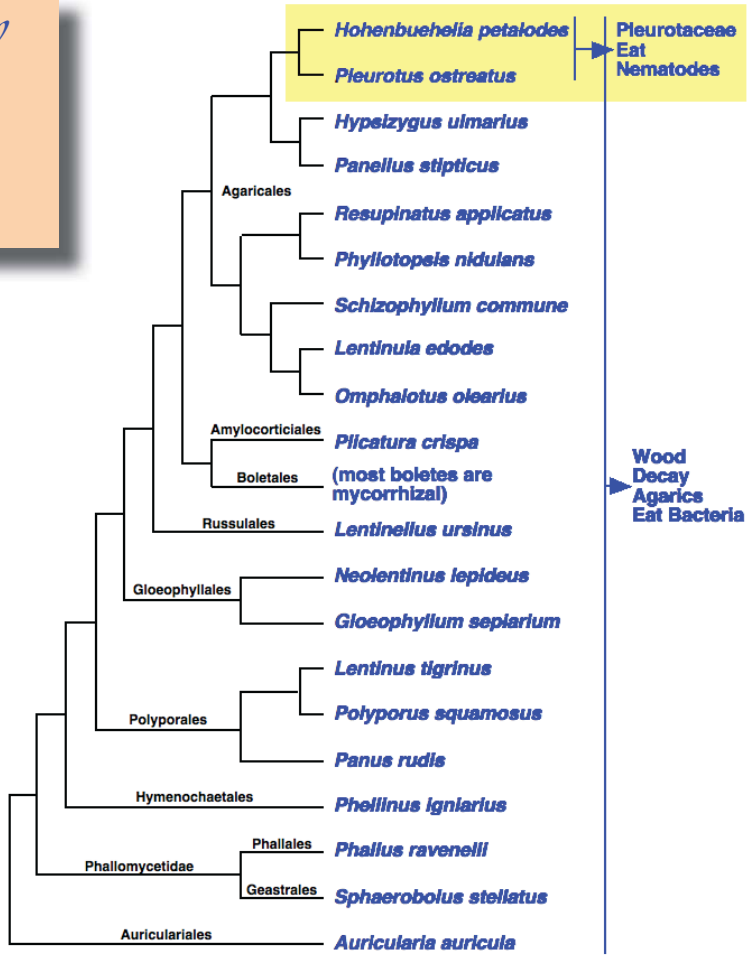


Figure 1. A phylogenetic cartoon of selected Agaricomycetes based on Hibbett et al.[1] The ability to attack and consume living bacteria is widespread among wood-decay agarics, but the ability to attack and consume living nematodes is a specialty of the Pleurotaceae—*Hohenbuehelia* and *Pleurotus*.

amino acids, proteins, and even their cell walls. Bacteria and nematodes are full of Nitrogen. So, rather than just eating wood, our decomposer fungi are more predatory than you might have imagined. To see the many predatory strategies that fungi have to get Nitrogen, see George Barron's site, <http://www.uoguelph.ca/~gbarron/2008/hdiktlis.htm>, and <http://www.uoguelph.ca/~gbarron/N-D%20Fungi/n-dfungi.htm> for dramatic photos of other nematode catchers. Aren't fungi fun when you get to know them?

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1. Hibbett DS, Bauer R, Binder M, Giachini AJ, Hosaka K, Justo A, Larsson E, Larsson KH, Lawrey JD, Miettinen O, Nagy L, Nilsson RH, Weiß M, Thorn RG: Agaricomycetes. In: The Mycota, vol. VIIA, Systematics and Evolution, 2nd ed. McLaughlin DJ, Spatafora JW, eds. Springer-Verlag, Berlin, pp. 373-428. 2014.

2. Thorn RG, Tsuneda, A: Interactions between various wood-decay fungi and bacteria: antibiosis, attack, lysis, or inhibition. Rept. Tottori Mycol. Inst. 30: 13-20. 1992.

Fungi like Pleurotus, *the oyster, i.e. a wing-shaped fruitbody with gills, laterally attached to wood.*

Hohenbuehelia species—the jelly oysters of Newfoundland and Labrador

Greg Thorn

Hohenbuehelia petalodes *on chips in a planting bed at Western University, where the author works. Not an NL mushroom.*

Key to the jelly-oysters of NL and the Atlantic provinces

1a. Growing on the ground, in soil or needle duff 2
1b. Growing on dead wood, including fallen logs or attached dead branches 3
2a. On needle duff or among mosses over needle duff in coniferous forests, caps solitary or small groups but not clustered, pale to medium brown ..... ***Hohenbuehelia tremula***
2b. On soil in rich deciduous woods or in flower pots, caps clustered like overlapping petals of a flower, medium to bay brown ..... *Hohenbuelia petalodes* (not known from NL)
3a. On coniferous wood or branches 4
3b. On branches of deciduous trees 5
4a. On soggy, well-rotted conifer logs, with petal- or spoon-shaped cap 2-4 cm long by 1-2 cm broad, pale honey coloured to medium brown ..... ***Hohenbuehelia*** cf. ***abietina***
4b. On dead attached branches of balsam fir (and possibly other conifers), cap goblet-shaped and attached laterally or dorsally, black, with a few whitish wisps on the upper surface, gills grey to black ..... ***Hohenbuehelia pinacearum***
5a. Gills white to pale yellow 6
5b. Gills grey to black, cap cup- or goblet-shape, laterally or dorsally attached on dead branches of aspen or pin cherry, a translucent warm brown and pruinose when fresh, but opaque and frosted silver when dry ..... *Hohenbuehelia unguicularis* (not known from NL)
6a. Basidia 2-spored, cap fan-shaped, 0.5-2.5 cm broad, with a thick, translucent gelatinous zone on the upper surface when fresh, honey brown to leaden grey, on branches of alder (and possibly willow) ..... ***Hohenbuehelia fluxilis***
6b. Basidia 4-spored, cap similar 7
7a. basidiospores 6.5-8.5 x 3-4 um ..... *Hohenbuehelia grisea* (not known from NL)
7b. basidiospores 10-14 x 5-6 um ..... ***Hohenbuehelia reniformis***
(record from Konrad Brook, Labrador, 2008, not reviewed)

Hohenbuehelia pinacearum

Found by Gary Warren during forest pathology surveys of balsam fir regeneration, near Barren Lake in central Newfoundland. It has also been found in ON, NB, and QC, usually on dead attached branches of living balsam fir.[1] This black jelly-oyster is jet-black on the top, with a few fine wisps of white, with an inrolled rim at first and a few grey to almost black gills radiating from where it is attached—towards the side if it is laterally attached, and from the centre if it is attached by the top of the cap. This species has been referred to as *Pleurotus silvanus* by Josserand, and as *Pleurotus* or *Hohenbuehelia reniformis* by Rea and by Watling & Gregory. It most closely resembles the *Resupinatus* species *applicatus* (the bearded black jelly-oyster), *striatulus* (the striate wee jelly-oyster), or *trichotis* (the blackbeard jelly-oyster), which all differ by having globose spores, rather than the narrowly elliptical spores of this species. None of these *Resupinatus* species has been found in Newfoundland, but each have been found in Nova Scotia, so keep your eyes out for them. Photo shows *H. pinacearum* on a dead branch of a living balsam fir; we are looking up into the undersides of the fruiting bodies. Algonquin Park, ON.

Hohenbuehelia unguicularis

may also occur in Newfoundland and Labrador, given that it has been found in ON, NS, and QC;[1] it is similar to *H. pinacearum* in size, shape and colouration except for an overall pruinose appearance when fresh, drying frosty silver, and differing in occurrence on branches of trembling aspen and cherry. Photo shows underside of a dry collection of *H. unguicularis* on trembling aspen from Algonquin Park, Ontario. Keep your eyes open!

Hohenbuehelia cf. *abietina*

This species is represented in Newfoundland by a single collection on well rotted spruce wood on the Notre Dame ski trails on the 2008 foray. It may be the same species as has been found on well-decayed conifer wood on the West Coast of Canada in BC. Those BC collections have the right spores for *H. abietina* (5.8-7.2 x 3.3-4.6 um) but a thicker gelatinous zone characteristic of *H. auriscalpium* (which, if these are conspecific, would be the correct, older name). *Hohenbuehelia abietina* has not previously been reported from North America.

Hohenbuehelia tremula

This appears to be the commonest species of Hohenbuehelia in Newfound and Labrador, having been found more than once! It is found on needle duff in coniferous forests, sometimes among mosses. It has the outline of a Chinese soupspoon, but of course is flat, only about 2-4 cm long by 1-2 cm broad and not very good for eating wonton soup. The upper surface is a medium brown and glabrous to finely tomentose, sometimes with a patch of white mycelial fuzz toward the base. The narrow and moderately crowded gills run the full length of the fruiting body onto the short "pseudostipe", or stemlike elongation of the cap. In addition to Newfoundland and Labrador, this species has been found in NWT, ON, and QC.[2] Upper photo from 2008, on coniferous duff in the West Brook Ecological Reserve. Lower is a fresher collection from coniferous duff in the Main River area, from 2011.

Hohenbuehelia fluxilis

This small species was recorded on dead alder branches in a swampy thicket near the Fogo Island ferry terminal on Change Island, during the 2013 foray. It is part of a species complex that includes *Hohenbuehelia atrocaerulea* (which, according to its name, should be blue-black), *H. grisea* (nominally grey, but often honey-brown), *H. approximans* (approximates *H. grisea* except in smaller size), and *H. reniformis* (a large-spored European species). All of these are fan-shaped and laterally attached on dead wood or branches. Until someone does a detailed molecular study to sort out these species, we are left pinning the tail on the most suitable-looking donkey. *Hohenbuehelia fluxilis* is unique under the microscope, in having 2-spored basidia rather than the usual 4-spored ones in all the others. It has not previously been reported from North America.

Hohenbuehelia reniformis

A collection on dead alder (*Alnus viridis* ssp. *crispa*) at Konrad Brok, Labrador, 30 July 2008, was identified as this species. Its has not been reported from North America, previously but it might! It is certainly not the same species as first described from Guyana under the name Agaricus reniformis by Meyer (in 1818—that species was stipitate and had a reddish stem), but in 1821 Fries used the same name in quite a different way to refer to an astipitate mushroom in the Swedish woods, much akin to *H. fluxilis*—this is what is usually meant by that name to-day. It is a member of the *Hohenbuehelia atrocaerulea* complex with very large spores. Unfortunately, we do not have a photo of the Konrad Lake collection.

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1. Thorn, RG: The "Pleurotus silvanus" complex. Mycotaxon, 25:27-66. 1986.
2. Thorn RG, Barron G: Ne,atoconus and the tribe Resupinatae in Ontario, Canada. Mycotaxon, 25:321-453. 1986.

THE MAIL BAG

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

Dear Ed

Thanks, just thanks. Now I have an earworm stuck in my head. No, make that an adulterated earworm: "...when the moon hits your eye like a Lepista pie..." Funny that I'd just collected a big haul of these from my own (huge) compost pile TODAY, here at the farm. And as you pointed out, I got mine going several years ago, using stems and bits shoved into the detritus of that compost pile and oh yes it gets plenty of replenishment throughout the year. Nice to know those fungi are breaking all that stuff down for me...then recycle it back into fare for the table when we start getting hard frosts here in Wisconsin. There were several babies out there that I left and I'll go back in a few days for them. I will have to try the pizza idea. They don't last too long in the fridge, so I always slice them up and saute all of them right away. I'll have some on that day with dinner and the remainder goes into a bowl in the fridge for tomorrow. Although I simply tossed with pasta tonight, my favorite way for blewits is in a cheese tart, so that's planned for tomorrow.

Best,

Britt (Bunyard)

Dear Britt,

Thank you for your enthusiastic comments. I'll pass them on to the author, who never expected anybody to read the article. Since its writing in 2011, it has been inserted and then removed into and from seven issues, always bowing out in favour of more topical material. Poor thing was getting an inferiority complex.

Much happens in three years. The pile of grass clippings where *Lepista* grew was on our neighbour's property. Then came a year of unprecedented snow, much water at snowmelt time, release of the reservoir gates upriver to prevent excessive pressure on the dam, flooding of the downriver banks. The flood flowed over the banks and carried away the grass clippings at its edge. No more Lepista pie for us! In our woods, it's always the foul smelling and tasting *L. graveolens*, something we have learned to reserve strictly for our guests. Ed

The picture of Michael B as president is genius!!!!!!!!!!!!!

Mark Lamswood

The 2014 NL Foray was a tremendous experience for both of us. You have an excellent team of people, the organization was flawless and unobtrusive.

Adolf & Oluna Ceska

Dear Andrus,

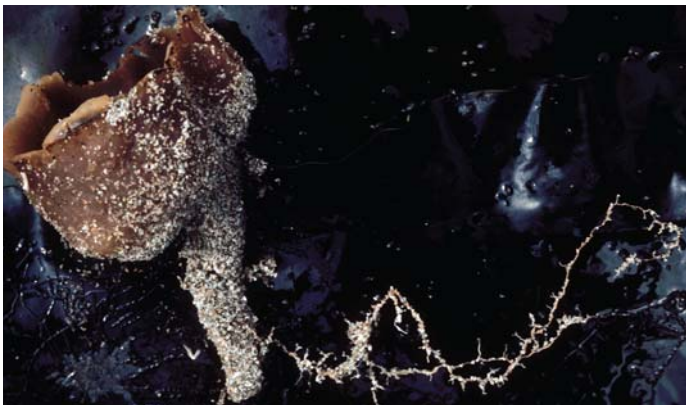
Two quick comments: 1) *Peziza ammophila* is at least sometimes connected at its base to apparently dead roots of *Ammophila* (photo by yours truly on p. 16 of Ascomycete Fungi of NA, from NB). Is that an artifact? "What is it doing there?" remains a good question. 2) *Pluteus* sp. (or spp) bearing strong superficial resemblance to that on Henry Mann's shed roof seem common on well-rotted conifer wood "in service" - subroofing, subflooring, and bathroom coping (OK, some of that plywood might have been yellow birch, but more likely low grade Douglas fir). That must be worthy of a graduate study. There's probably a pile of money for it from CMHC or the builders' industry.

Cheers,

Greg (Thorn)

Dear Greg,

Thank you for the comments, especially the *Ammophila-ammophila* photo. That's what I expected to find. Possibly I was too rough in my digging.



Fredo Justo thought the *Pluteus* In the photo might depict a species from section *Celluloderma*, i.e. a new species for the province (and which might let Andy Methven off the hook). Unfortunately Henry's specimen was sentenced to death after photographing, so that not even a scrap of DNA is left. Are the spores introduced as part of the planned obsolescence in the manufacturing process, or are they de novo local spores finally finding a suitable substrate for glue sniffing? Guess we'll await your CMHC funded study. Cheers! a

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