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Three Lichenomphalias from the Top of Gros Morne Mountain

by Andrus Voitk

Within the genus *Omphalina* there are two kinds of mushrooms—those that exist as mushrooms alone and those that exist as the fungal component of a lichen. Genetic studies of the genus showed that the lichenized mushrooms shared DNA similarity different from the rest of the genus. Therefore, Canadian mycologist Scott Redhead proposed splitting these into a separate genus, *Lichenomphalia.*

Lichens are very interesting organisms composed of two or more other organisms. One of these is always a fungus and the other(s) is/are either one (or more) alga or a cyanobacterium. The fungus is by far the major component of any lichen, gives its thallus shape, and the lichen is known by the name of the fungus. In some instances, both component organisms exist separately as well as in their combined lichenized form. Of the thousands of lichens, very few have a basidiomycete as the fungal partner. Only about 20 species are formed with agarics (mushrooms with cap, stem and gills). It seems that in these uncommon cases, over time the basidiomycete has lost its ability to live independently and is an obligate lichen component, found only in its lichenized form. The associated alga may not be similarly limited and may live independently as an alga or with a host of fungi as a lichen.

The method of association between fungus and alga varies. Some seemingly obligate "lichens" are actually not true lichens, for they are loosely associated only, with no intermingling of components—i.e., the alga grows freely and the fungus grows freely but only together with the alga. For example, *Multiclavula* cannot exist without its algal partner, although it is not structurally linked to the latter. True lichenized fungi have their algal partner(s) trapped inside a film or pocket of fungal tissue. Thus it is a somewhat unbalanced partnership: the partner that cannot exist without the other encapsulates the latter and lives off its produce.


Fig. 2

The poor soils of barrens, including mountaintops, are preferred habitats for many lichenized agarics. Three species of the genus *Lichenomphalia* were encountered on top of Gros Morne Mountain July 4, 2006. All three are associated with the same alga,

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Fig. 1

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Coccomyxa. All are white-spored mushrooms with a similar (omphalinoid) appearance—dimpled, wavy cap, decurrent gills, central stem. Our commonest *Lichenomphalia* is *L. umbellifera* (a.k.a. *Omphalina umbellifera*, *Omphalina ericetorum*), found uncommonly in our woods and commonly on barrens. In richer habitats, it is considerably larger and lusher. Figure 1 shows some found on the trail to Gros Morne Mountain in 2003. Figure 2, photographed on top of Gros Morne Mountain, shows the smaller specimen typically encountered on the barrens. Color varies from nearly white to tan, the latter being more common on barrenland specimens; the stem is usually darker than the cap. The lichen thallus is a crust of green granules. If it grows on bare soil, the crust may be extensive, but in moss or other vegetation it is often not noticeable, as in the illustrations. It is found from early spring to late fall, but less commonly during the warmer part of late summer. It is a very Canadian mushroom, with a circumpolar distribution, roughly north of the 49th parallel. Most striking of the three is *L. hudsoniana* with its white stem and yellow cap (Figure 3). Its foliose, green, scaly or leaf-like lichen thallus, seen at the foot of the specimen on the left, is diagnostic. By convention the lichen bears the name of the fungus, but before the connection between this thallus and *L. hudsoniana* was known, the thallus was known as *Corsicum viride,* and it can be found still under that name in most lichen books.

A bit smaller in stature with a shorter stem is *L. alpina* (Figure 4). This mushroom is a deeper or more orange yellow, superficially resembling a tiny chanterelle in color and shape. Cap, gills, and stem are the same color. Its lichen thallus resembles that of *L. umbellifera,* a green granular crust, called *Botyrodia vulgaris,* well seen in the photo. Both yellow *Lichenomphalias* fruit in the early summer with a range considerably more northerly than *L. umbellifera.* The classical habitat for both is alpine, on top of barren mountains, more so for *L. alpina* than *L. hudsoniana.* Both are also found in heaths along coastal barrens and on barren northern coastal islands. Both are common finds in July along the Labrador coast, *L. hudsoniana* somewhat more southerly than *L. alpina*.


Fig. 3


Fig. 4

Of these three, *L. umbellifera* is the only one that exists outside the specialized habitats and is therefore the only one of the three to have made it into mainstream mushroom books. This is not because the others are not common—no, they are quite common in the described season and habitat. and because we have a lot of both coastal and alpine barrens, they are very common mushrooms in Newfoundland and Labrador. Most people have not seen them because most people don't look for small mushrooms in the summer on top of mountains or on barren coastal islands. They have not made it to mushroom books because authors of same are remarkably uncommon in said habitats.

Most people consider them uncommon to rare and somewhat exotic. Mycophiles are thrilled to encounter these pretty mushrooms, and many are willing to bear the cost of significant travel to do so. We are privileged to enjoy access to them and have something worthwhile to offer to mycophiles the world over. These little treasures are worth preserving and cherishing.