

# BOGDIVERSITY THURSDAY



—*from Head Naturalist Clinton*

## Parasitic Fungi

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In honor of our upcoming Fungi Foray and Workshop with [Ariel's Mushroom Co.](#), let's consider the wide range of fungi that exist in the Sax-Zim Bog! We have documented 184 species of fungi, with an additional 45 species of parasitic or rust fungi. For this post, let's consider those fungi that are not what you expect when thinking of a mushroom, ie, those fungi that are not mushroom shaped or that even look like mushrooms at all!

First, a familiar species of fungus, the Lobster Mushroom! These bright orange mushrooms are a choice edible and perhaps your first point of interest in mushrooms (if you like eating them, that is!). However, you may not know the entire story of this mushroom, as there is more than meets the eye! The fungus that makes up the Lobster Mushroom is *Hypomyces lactifluorum* and is actually a parasitic fungus that parasitizes mushrooms in the genus *Russula* and *Lactarius*. So, what you are seeing, when you look at a Lobster Mushroom, is the parasitic fungus taking over its host as a growth substrate and not a bright orange species of mushroom! This colonization has a strange effect on its host,

making a normally toxic or inedible species of mushroom into a highly sought after edible fungus. There are at least 8 species of *Hypomyces* in Minnesota, but Lobster Mushroom is very likely the one most familiar to foragers and naturalists alike.

Next on our list is a really odd parasitic species of fungus called *Entomophaga grylli*! This fungus is a species in the group of fungi known as Insect Destroyers, as their hosts are primarily insects. *Entomophaga grylli* specifically targets grasshoppers, katydids, and crickets. In order to spread its spores, the fungus overrides its host and makes it climb to high perch where it finally consumes its host. The common name for this species is Summit Disease, which is a great descriptor of what the fungus does. In the Sax-Zim Bog, we have found a couple of different species of Insect Destroyer fungi, but *Entomophaga grylli* is the most obvious as we have primarily found this fungus on Carolina Locust!

A fairly recent addition to our species is a neat fungus called Spruce-Labrador Tea Rust Fungus! This is another really odd fungus, as it utilize two different hosts for two different parts of its life cycle. In development, the first spores are produced on the new needles of Black Spruce. Those spores mature and are blown by the wind across the landscape, only infecting Labrador Tea! Once Labrador tea is infected, it hosts the new developing spores that overwinter and are released the following spring. Those overwintered spores are released, only infecting new spruce needles and nothing else! What an odd, beautiful and cool fungus!

Speaking of beautiful fungi, let's take a look at one last fungus: Turquoise Elfcups! This is a tiny, colorful, and really beautiful fungus found in rotting wood. Turquoise Elfcups is one of the blue stain fungi that you may have encountered when looking at dead wood on the forest floor. When this species matures, these beautiful fruiting bodies appear, to spread spores, and continue the next generations of this fungi. The green staining you see on wood is the mycelium of this species and a number of very similar related species. They do not break down wood, but their spores are spread by wood boring beetles (who are breaking down the wood!).

More information about the fungi above, in the photos below.

(Photos by Head Naturalist Clinton)



The glorious Lobster Mushroom! This species is commonly found in sandier soils in our area, but is not restricted to those substrates. It really relies on where you find its host mushrooms!



What an odd fungus! *Entomophaga grylli* infects grasshoppers, katydids, and crickets and when mature, turns its host a ghostly white!



The round spots on this oddly red Labrador Tea leaf are the fungal bodies of Spruce-Labrador Tea Rust Fungus! Its life stage on Black Spruce is much easier to see, as it looks like someone dusted the tips of a Black Spruce with orangish fuzz!



Turquoise Elfcups is quite small, but rather lovely if you find yourself investigating the forest floor. This species, one of our blue stain fungi, is quite easy to find: just look for the bright blue staining on dead wood on the forest floor.