

Lichens and What They Mean for Your Trees

Every year around March I begin getting calls about a “fungus that’s killing my trees.” Often this is followed by tales of scrubbing the perceived offenders off of the trees with bleach. First let me say that bleach is not to be used on trees, or in the landscape at large beyond disinfecting tools and bird baths/feeders. Next let’s talk about this “fungus.” While there are many fungi that affect trees, the culprit in question is usually a lichen.

Lichens are a symbiosis between a fungus and either an alga or a cyanobacteria. The algae or cyanobacteria can survive as an individual organism, but the fungus cannot. It has been said that lichens are fungi that have discovered agriculture. The algae/cyanobacteria produce food through photosynthesis which the fungus feeds on. The fungal component of the lichen provides structure, access to sunlight and protection from drying out for the lichen, enabling lichens to survive in extreme environments that the algae or cyanobacteria could not tolerate on their own. Lichens have been observed performing photosynthesis at -20 degrees Celsius! Estimates range between 13,000 and 30,000 species of lichens globally, with lichens inhabiting every continent.

Lichens occur in three growth forms: crustose, foliose and fruticose. Crustose lichens look as though they were painted on the tree or other surface they are inhabiting. They are tightly attached, crust-like in appearance and nearly impossible to remove. About 75% of lichen species on earth are the crustose growth form. Foliose lichens are leaf-like in appearance and somewhat loosely attached to the substrate. Fruticose lichens are shrubby and usually elevated from the substrate. Sometimes fruticose lichens may look like little beards hanging in tree branches.

So, what do lichens mean for trees? Lichens may be an indicator of poor plant health, but they are never the cause. Lichens take nothing from trees or other substrates that they grow upon. They are simply using this spot as a place to perform photosynthesis. You may find lichens on mailboxes, rocks, soil, plants, tortoise shells and window panes. On trees, they may or may not be a cause for concern. On older trees that are no longer actively growing, they are usually not a warning sign. On young, small trees that should be growing, lichens usually signal environmental stress – especially if you are seeing them in the tree’s canopy. Environmental stress can be moisture stress/poor drainage, drought stress, nutrient stress, storm damage, cold damage, soil compaction – or a combination of those stressors. In Camden County the culprit is almost always poor drainage and/or too much water. Remember that lichens need to photosynthesize so if you are seeing a lot of them in the canopy of your tree, that means that the tree isn’t putting on good leaf cover which is a clear sign of stress.

Though lichens don’t harm trees, they may be confused with fungus which can. If you are seeing fungal growth on your trees – often taking a shelf, mushroom or globular form – this is a sign of rot. If you have questions about what you’re seeing, you can always email me a clear picture for diagnosis.

Lichens play some vital ecological roles that often go unnoticed. Lichens are a food source for caribou, moths, slugs, flying squirrels and mites among other animals. They provide nesting materials for hummingbirds, vireos and other birds, and are used by humans to monitor air quality and in dyes, deodorant, perfumes and antibiotic salves.