



# WEST WINDSOR TOWNSHIP

## DEPARTMENT OF COMMUNITY DEVELOPMENT Shade Tree Commission

### About Lichen (pronounced *LY-ken*)

Currently, there are approximately 3,600 known species of lichen in North America. Lichen are found all over the world and in a vast diversity of habitats and climates.

#### What is Lichen?

Lichens are bizarre organisms that are a symbiotic partnership of two separate organisms, a fungus and an algae (meaning they interact together due to living in close physical association with each other). The dominant partner is the fungus, which gives the lichen its main characteristics, from its thallus shape (lacking root, stem and leaves) to its fruiting bodies. The alga can be either a green or a blue-green alga, otherwise known as cyanobacteria. Many lichens will have both types of algae.

The “lichen symbiotic partnership” includes: Fungus, Algae and Cyanobacteria.

#### Why are Lichens Important?

- Lichens are beautiful to look at. *Alectoria sarmentosa* (witch’s hair) hanging from the branches of the old Douglas firs and Sitka spruce in the Pacific Northwest makes the forest more magical. The Rocky Mountains need crust lichens to “color” the rocks and cliffs with the reds, yellows, and greens.
- Lichens provide a mode of survival in harsh environments where algae cannot normally survive. The fungus can protect its algae, by providing protection, humidity and absorbs the water so that the algae, which are normally water-requiring organisms can live in dry, sunny climates without dying.
- Lichens enable algae to live all over the world in many different climates and provide a means to convert carbon dioxide in the atmosphere through photosynthesis into oxygen, which we all need to survive.
- Lichens directly benefit humans through their ability to absorb everything in their atmosphere, especially pollutants. Lichens can provide us with valuable information about the environment around us. Any heavy metals or carbon or sulfur or other pollutants in the atmosphere are absorbed into the lichen thallus. Scientists can extract these toxins and determine the levels that are present in our atmosphere. The [United States Forest Service National Lichens & Air Quality Database and Clearinghouse](#) provides more information about lichen biomonitoring and how it is helping federal land managers meet federal and agency responsibilities to detect, map, evaluate trends, and assess the ecological impacts of air pollutants.



Source: <https://www.fs.fed.us/wildflowers/beauty/lichens/about.shtml>