



## Henderson County Master Gardeners Weekly News Article      December 17, 2017

### Liking Lichen by Lydia Holley



Lichen is defined as “a simple slow-growing plant that typically forms a low crust-like, leaflike, or branching growth on rocks, walls, and trees”. That definition, however, is not completely correct. Lichen is anything but simple.

In order for lichen to become lichen, it takes a fungus and an algae, and they have to be growing together. Lichen mainly consists of the fungus, but enough of the algae must be present to provide nutrients to the fungus through photosynthesis. This is important as the fungus does not have any plant parts such as leaves, stems, or even roots to provide food.

Of course, the algae also benefits from this partnership. The algae in lichen is known as cyanobacteria, which mostly live in water. The fungus part of the lichen allows the algae to grow outside water. Cyanobacteria is interesting in an of itself. According to the University of California Museum of Paleontology, “the other great contribution of the cyanobacteria is the origin of plants.” That is quite the statement! They go on to explain: “The chloroplast with which plants make food for themselves is actually a cyanobacterium living within the plant’s cells”.

Because the fungus gives the algae a place to live outside of water, lichen can develop in almost any climate or area, providing oxygen to the atmosphere. They have also been found to absorb heavy metals and other pollutants. In fact, the United States Department of Agriculture Forest Service uses this information found in lichen to determine areas that are heavily polluted.

In the past, lichen has been used for medicinal purposes and in making dyes. Lichen has also been used as food. Reindeer eat lichen, and according to lichenologist Dr. James Lendemer, Assistant Curator at New York Botanical Garden’s Institute of Systematic Botany, manna from heaven was actually two types of lichen. Now, that is food for thought.

Lichen can be found in almost every place on earth. There are an estimated 15,000 to 20,000 species of lichen. You may be relieved to know that lichen is not harmful to trees. So, the next time you see lichen growing, look a little closer, and marvel at the miniature world that is growing in plain sight, yet mostly hidden from the naked eye.

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