

## Lichen and Trees

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Tree bark is often colonized to some extent with a growth of other epiphytic organisms, including different types of lichen (pronounced “liken”).

### Biology

Lichens are non-parasitic organisms consisting of a symbiotic relationship between a fungus and a green alga or cyanobacterium. The fungus collects water and minerals from the air and substrate and the alga/bacterium contributes photosynthates and other nutrients to the partnership. The fungal symbiont uses a specialized structure called a haustorium to penetrate the algal cells so the two partners can share the nutrients and photosynthates. The lichen itself grows on the surface of the organism or object (trees, rocks, dead wood, grave stones, etc.) without causing any harm or negative effect to its host (Figure 1).

**Figure 1: Lichen growing on tree host**



### Symptoms

When people notice a tree trunk completely covered in lichen, they sometimes wonder if the organisms are affecting the health of the tree, especially if the canopy

**Figure 2: Abundant lichen growth on tree branch**



looks thin. In reality, lichens grow best in sunny locations with good air quality, which is why they grow more abundantly on tree trunks exposed to light. If a tree is declining or has a thin canopy, more sunlight will reach the trunk creating a conducive environment for lichen growth (Figure 2).

### Management

Evaluate the tree and the surrounding environment for stress, disease, and insect problems that need to be corrected to improve tree health. Stress in particular, can come from environmental and cultural problems like compacted soil and soil moisture/nutrient issues.

Soil care and root invigoration may help to improve tree and shrub health in this case. There are no chemical management strategies to control lichen growth.