

## Lecture:5

### Lichens

#### **What is a Lichen?**

You can think of lichens as fungi that have discovered farming. Instead of parasitizing or scavenging other organisms for a living (such as molds, mildews, mushrooms), lichen fungi cultivate tiny algae and/or blue-green bacteria (called cyanobacteria) within the fabric of interwoven fungal threads that form the lichen body (or *thallus*). The algae and cyanobacteria produce food for the fungus by converting the sun's energy into sugars through photosynthesis. Perhaps the most important contribution of the fungus is to provide a protective habitat for the algae or cyanobacteria. Thus, lichens are a combination of two or three organisms that live together intimately. The green or blue-green photosynthetic layer is often visible between two white fungal layers if a piece of lichen thallus is torn off. In some cases, the fungus and the photosynthetic partner that together make the lichen may be found living separately in nature. However, many lichen-forming fungi cannot exist by themselves because they have become dependent on their photosynthetic partners for survival. But in all cases, a fungus looks quite different in the lichenized form compared to its free-living form.

