

Abstract

This thesis summarizes the most recent research on bacteria in lichen symbiosis. Lichen symbiosis and the partners participating in it are described in the first part of the thesis. The emphasis is mainly on the different functions that bacteria can have in lichen symbiosis. These functions include, for example, the fixation of atmospheric nitrogen, the production of cobalamin, essential for the growth of some algae, the secretion of antimicrobial substances and the recycling of nutrients contained in old parts of the litter. The main groups of bacteria that occur in the lichen symbiosis are also discussed, along with the factors that influence their occurrence. The most abundant group of bacteria in lichens are the Alphaproteobacteria. Their abundance in lichens is probably influenced by the frequent occurrence of these bacteria in the substrate on which the lichen grows. Other abundant groups of bacteria in lichens are representatives of Firmicutes, actinobacteria or acidobacteria. All important groups of bacteria are acquired by lichens through both vertical transfer and horizontal transfer.

Key words: Alphaproteobacteria, nitrogen fixation, antagonistic activity, microbiota, biofilm