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**Bacteria - mycobiont - photobiont interactions in saxicolous crustose lichens
as sensitive bio indicators in context of climate change**

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Climate change has severe negative impacts on species and their interactions. In order to understand the causes and consequences of environmental changes it is obligatory to investigate current patterns of biodiversity in heavily threatened areas such as the Alps. Mean annual temperature negatively correlates with altitude, which allows employing the altitudinal gradient as proxy for climate warming. Lichens are symbiotic organism, containing a mycobiont (fungus) and a photobiont (algae/cyanobacterium) and exist in varying degrees of specialization to each other. Additionally, lichens are habitats for bacterial communities and result in very specific structured life communities, which are related to the climatic conditions in the different altitudinal areas.

For understanding the effects of climate change in relation to the bacteria-mycobiont-photobiont interactions a biodiversity study along an elevation gradient of about 1900 m in high alpine areas (along the Großglockner High Alpine Road, Salzburg, Austria) will be carried out with saxicolous crustose lichens as model system.

