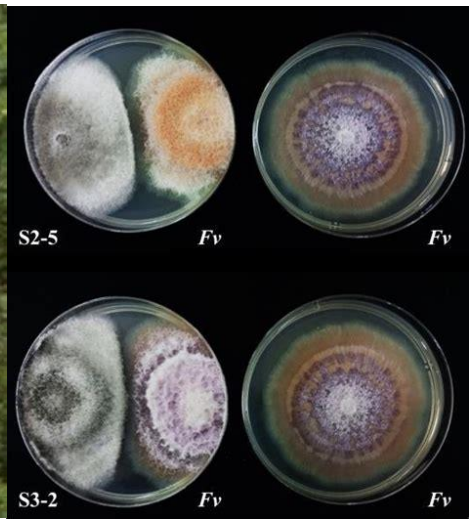

Master project:
Effect of eight years of drought on endophytic fungi of *Picea abies* seeds

Endophytic fungi life within plant tissue without causing any harm to the host plant. On the contrary, they have beneficial effects, such as production of secondary metabolites protecting the plant against pathogens, or enhancing stress tolerance and plant defense mechanisms. These secondary metabolites are of large interest for pharmaceutical research, due to their antimicrobial activities. Research was focusing on endophytes from plant leaves or needles, while knowledge about endophytes from seeds is still poor. This is surprising, as endophytes transmitted in the seeds are certainly of crucial importance to the plant host.

We are interested in the question, if long-term drought causes changes in endophyte communities of *Picea abies*. Samples can be obtained from a site in Stubai valley subject to experimental drought for eight years. Surrounding trees serve as controls.

The aim of this Master project is to focus on *Picea abies* seeds for diversity of endophytic fungi. For this, surface sterilized seeds will be plated and fungal pure cultures isolated and characterized. Characterization will be carried out through microscopy and sequence analysis of fungal DNA barcode regions.

Used methods:

- Surface sterilization of seeds
- Isolation and cultivation techniques of fungi
- Microscopy
- DNA-extraction, PCR and sequencing

If you are interested in this Master project please contact
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Start of project: April-July 2024