Virus-like particles in the genome of *Lecanosticta acicola*

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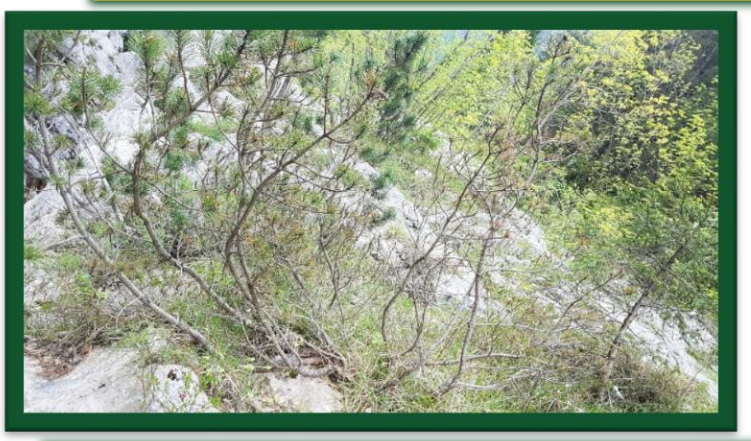


1. The pathogen – *Lecanosticta acicola*

- invading pathogen in Europe and it is spreading fast
- it is listed on the EPPO A2 quarantine list
- the causing agent of brown spot needle blight of pines
- problematic management of the disease

2. Mycoviruses

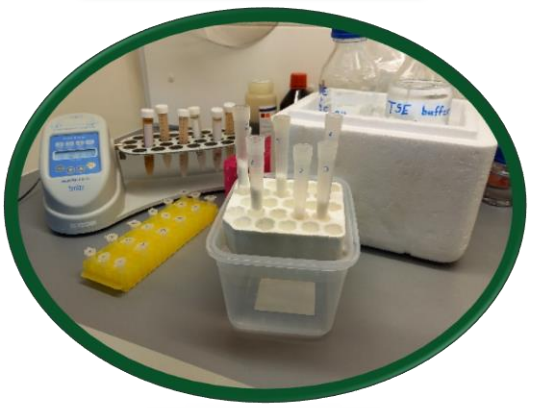
- the first positive record of fungal viruses was more than 50 years ago
- they can cause different effects on host fungi, both harmful and beneficial and lately they starting to get attention as a possible agents of biological control
- mycoviruses have evolved with their hosts and can be used as indicators of the origin and pathways of various phytopathogenic fungi
- most of them are dsRNA viruses

3. Objectives

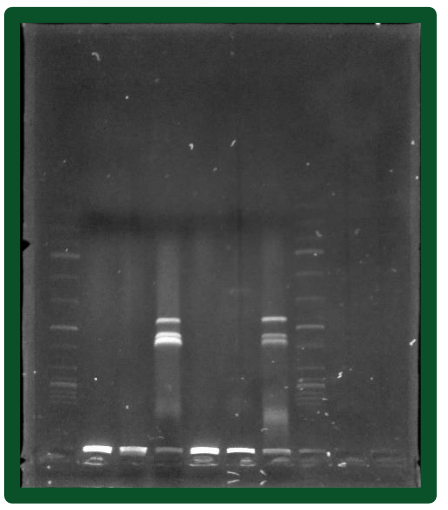
- to screen our collection of isolates of *L. acicola* which are indicators of supposed mycovirus presence
- to confirm the occurrence of the supposed viruses using specific primers and RT-PCR
- to sequence the detected dsRNA particles, in order to identify the supposed strains of mycoviruses and portray their genome

4. Methodology

4.1. preparation of isolates growing them on agar with cellophane



4.2. isolation of potential viral dsRNA using protocol based on the homogenization of samples in a lysis buffer, chloroform extractions and binding of the dsRNA particles to the CF11 cellulose



5. Results

- some of the isolates from our collection have shown the presence of virus-like particles
- judging by the binding pattern, the putative mycovirus could be the member of the *Partitiviridae* family

6. Ongoing work

- currently, we are doing a total RNA isolation with the commercial kit – SPLIT RNA Extraction Kit (Lexogen GmbH)
- isolated RNA will be prepared and sent for RNASeq (NGS method)

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