

ACG031-P02

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## Effect of tar spot disease on photosynthetic activity of Salix polaris in Spitsbergen Island, Norway

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We investigated the effect of tar spot disease on Salix polaris caused by plant pathogen fungi for photosynthetic activity in Ny-Alesund, Spitsbergen Island, Norway. We examined the distribution of tar spot, ascostroma covered area on S. polaris leaves, chlorophyll fluorescence of S. polaris leaves infected with tar spot disease and morphological observation of infected leaves. As a result, the tar spot distributed widely, the covered leaf area was affected on photosynthesis because fungal hyphae broke down plant tissues and the non-covered area of infected leaves was not affected on chlorophyll fluorescence. This study suggests that tar spot pathogen fungi distribute over a wide range in the field and the cover area of ascostroma affects photosynthesis on infected leaves. Further plant disease studies would be needed not only to clarify relationships between plants and the pathogens but also to predict effects for plant communities by climate change.