Project acronym: HERBIVORY

Project title: Insect herbivory in Svalbard

Project leader: Mikhail Kozlov, University of Turku, Finland

Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Czech Arctic Research Station (Svalbard/Czech Republic)

Plant ability to provide humans with oxygen, food, fibre and fuel is predicted to decrease as the climate warms due to greater increases in herbivory than in plant productivity. Importantly, this prediction is almost exclusively based on studies of conducted in temperate regions, whereas data on herbivory in high Arctic are in short supply. The proposed research visit to the Czech Arctic Research Station of Josef Svoboda (Julius Payer House) in Svalbard aimed at collecting data on losses of plant biomass to all feeding guilds of invertebrate herbivores, including sap- and root-feeders. To obtain these data, we assessed leaf damage by invertebrates, biomass of sap- and root-feeders and biomass of their food supply (leaves and roots). These data will improve representation of tundra biome in the database currently being created by our team to explore macroecological patterns in invertebrate herbivory. This global project, which has no sustainable funding and is mainly supported by multiple travel grants, would allow rectification and elaboration of predictions regarding climate change impacts on future ecosystem services through changes in invertebrate herbivory both above and below ground. This knowledge will improve the ability of key decision-makers to produce recommendations that ensure sustainable human wellbeing.