



Project acronym: ASAP GL

Project title: Alien species of Aphids - Greenland

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Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Greenland Institute of Natural Resources (Greenland)

Aphids (Insecta, Hemiptera, Aphidoidea) are among the most dangerous and most common pests of economy importance. Among them the species of non-native origin play a special role. In new areas, and under favourable conditions they can become invasive or can attack native or endemic plants. Unintentional introductions present the greatest threats to sub-Arctic ecosystems. Greenland, the world's largest Island, due to its geographical location, is particularly exposed to the appearance of alien species. The current aphidofauna of Greenland consists of relatively few taxa. The presence of alien species has not been studied previously in detail. Research hypothesis of the project assumes, that the rapid climate change in the Arctic region, and increases in human activity promote occurrence of non-native species of aphids. Therefore, the field study will be conducted in the largest settlement of Greenland – Nuuk and its vicinity. The proposed project is a part of the global trend of research on the impact of climate change on the spread of organisms. As the prevention of an introduction of a non-native species is the key factor, the database of such species (even in form of simply list) will help identify the scale and spatial pattern of invasive alien and pest species. Moreover, it can be used as a framework for considering indicators for early warning as well as a model for other studies.

The aim of the project was to ascertain the number of aphids species infesting plants in the largest settlement of Greenland – Nuuk and its vicinity. Moreover, it will allow identification of non-native species and whether the number of introductions of aliens has changed. Aphids are strictly associated with their host plants. At least ten various plant communities has been found in the Low Arctic including Nuuk and its vicinity. In addition, this largest human settlement of Greenland favours presence of various ornamental plants of alien origin – the main source of alien and pest species of aphids.