



Project acronym: PlantStory

Project title: Time Travel: On the tracks of historical botanists Gelting (1934) and Schwarzenbach (2001)

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Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Zackenberg Research Station (Greenland/Denmark)

We plan to repeat historical plant surveys that were done originally by Paul Gelting in 1934 (Gelting 1934) and were already repeated by Fritz Hans Schwarzenbach in 2001 (Schwarzenbach 2003). They recorded plants along an elevation gradient on Clavering Island in elevation belts of 100m from sea level up to 1250 m asl. The exact survey sites, routes and plant records are very well documented by Schwarzenbach (and also by Gelting). This data treasure provides a unique opportunity not only to analyse changes in plant species distribution in a very remote region of the Arctic covering very long timescales. Our project also has an important and novel historical component of research in East Greenland. We have the maps (Eskimonaes, Clavering Island), coordinates and routes travelled by Schwarzenbach in great detail. He recorded species distributions during c. 2 weeks from 29 July – 15 Aug, and we will copy his methodology (timing, locations etc.) as closely as possible. Inquiries with the local station manager were already very positive, in a sense that our research is very welcome there, and that logistics will be facilitated by local historical huts maintained by the Sirius patrol.

This study is well embedded in our larger framework of re-surveys of historical plant surveys in cold regions (see Steinbauer et al. 2018 in Nature). Also, this study will be part of a new initiative on multiple repeat-surveys in the Arctic (incl. Svalbard, Jan Mayen) for which data from East Greenland would be extremely valuable.