

## **Relationships between bacterial community structure and algal bloom in snow and glacier ecosystems**

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Recent studies have revealed that there are various microorganisms living in snow and ice environments. In these habitats, it is believed that snow algae and cyanobacteria serve as primary producers, and that heterotrophic communities including bacteria depend on them. However, it is only just a presumption, and there is little direct evidence for it. In order to clarify the relationships between algae and bacteria, we attempted to analyze bacterial community structure in the snow algal bloom. We collected snow and ice samples contain many algae (algal bloom) and bacteria at glaciers in Svalbard Islands and Swiss Alps, and snow patches in the Japanese Alps in 2007. Then, we also collected samples it doesn't contain algal bloom and compare both of them to detect specific bacterial community associated with algal bloom. Using microscopy, we classified algal taxa based on morphological characters and count total number of algal and bacterial cell. Moreover we used DGGE and small subunit rDNA cloning methods to know microbial community structure in these samples.