

## Comparison of microbial populations in the peat layer of two wetlands that have developed in northern Hokkaido

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Horonobe Town located in northern Hokkaido has two wetlands, namely, Sarobetsu-genya and Nakaminodaira, which have peat layers that are approximately 500-cm and 70-cm thick, respectively. The Sarobetsu-genya wetland that was included in the Ramsar list in September 2005 is important from an ecological perspective since a sphagnum bog developed in the plains at a low elevation site. On the other hand, the Nakaminodaira wetland in Teshio Experimental Forest of Hokkaido University is the northernmost mountain wetland that has developed on the serpentine sites of the Teshio Mountains.

Methane and nitrous oxide, gases that cause global warming, are discharged from wetlands, and the abovementioned two wetlands are definitely not exceptions. At the meeting in 2006, we reported that microbes involved in denitrification, degradation of organic matter and methanogenesis were detected in the peat layer of the Sarobetsu-genya wetland, and these microbes had characteristic profiles depending on the depth at which they were present. However, it is necessary to study the microbial distribution and formation processes on other wetlands in order to evaluate the effect of microorganisms on material recycling in the peat layer.

The main aim of this study is to understand the interaction between the microbial community and material recycling in the peat layer of two wetlands by using phylogenetic analysis based on 16S rRNA gene sequences.