

Snow algal communities on Urumqi Glacier No.1 in Tianshan mountains, China

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Snow algae are algae which was adapted for cold environment, and is photosynthesizing and breeding on the glacier surface.

It is known that especially the glacier covered with the granules called the Cryoconite which made by cyanobacteria will dissolve by one the speed of 3 times of this.

Moreover, snow algae are used also for ice core research, and it can be said that it is important for earth science to get to know their ecology.

However, quantitative analysis of the snow algae is still restricted.

The glacier treated by this research is Wulumuqi No.1 glacier located in China Tien Shan.

Various researches including observation of mass income and outgo have accomplished here for many years, and acquisition of information other than snow algae is easy.

By the analysis of the sample in the 2007 fiscal year conducted before, and comparison of an analysis result with other glaciers in the world, it was showed that although cyanobacteria are dominance but small numbers of greenalgae also be there, and it was suggested that this formation factor is an arid region of the circumference of a glacier.

This feature differs from all of the glacier of other Asian areas where analysis of the snow algae was conducted similarly.

This time, the newly extracted sample in the 2011 fiscal year was analyzed, and the feature of the snow algal community of Wulumuqi No.1 glacier and the further understanding of the formation factor were tried.

As a result, same feature as the above was seen also in 2011. This may be the general feature in Wulumuqi No.1 glacier in recent years. Furthermore, there are the other features common to that in 2007 and 2011. Many kind of cyanobacterium are observed rather than greenalgae. The total biomass being large at ice area and falling in a snow area. Cyanobacterium are dominance in ice area, and greenalgae are dominance in snow area.

On the other hand, some change was also seen.

It is that the biomass increased on the whole, and that the altitude over which many Oscillatoriaceae cyanobacterium 2 are distributed was changing from the glacier lower stream to the middle class, etc.

As one of the factors which change of such a feature generated, change of the chemical component concentration on the surface of a glacier can be considered.

In addition, analysis of the sample in the 2006 fiscal year is also advancing as further candidate for comparison now.