

Pollen deposition on mountain snow cover and alteration of pollen concentrations due to its melting

Fumio Nakazawa[1]; Akinari Gotou[2]; Motoki Tanaka[3]; Masaharu Nanba[3]; Takayuki Kuramoto[3]; Michiko Muramoto[3]; Keisuke Suzuki[3]

[1] Shinshu Univ.; [2] Dept. Environ. Sci., Shinshu Univ.; [3] Dept. Environ. Sci., Shinshu Univ.

Recent studies showed that pollen grains in mountain snow cover are useful for the separation of several seasonal layers. Pollen grains are scattered in different season depending on the taxa. Thus different pollen taxa should be found in the snow layer deposited in different seasons. Moreover, peaks of different pollen concentrations in snow cover should coincide with these pollen high seasons. However, little is known about the depositional characteristics of pollen on high mountain snow cover and the alterations of pollen concentrations due to its melting. The purpose of present study is to investigate spatial variation of pollen concentrations in mountain snow cover and alteration in the concentrations with the melting. Snow samples were collected from several points in the mountain area of Central Japan during two winter seasons of 2005 and 2006. Pollen analysis of the samples from Norikura highland (1590 m a.s.l.) in 2005 contained *Cryptomeria japonica*, *Pinus*, *Abies*, *Alnus* and *Betula* pollen. The peak of *Cryptomeria japonica* pollen concentrations in the snow pack, although the pollen season is from February to April in Japan, coincided with the period of maximum pollen count near the observation site. In addition, the pollen peak increased with decreases of snow pack in snow melting period. This indicated that the pollen grains were concentrated in the snow pack.