

南極域の風送バイオエアロゾル実相調査

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The research of atmosphere bioaerosol over Antarctica

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We carried out the direct sampling and bio-analysis of bioaerosols in yellow dust (KOSA) using bioaerosol sampler which was developed on our own terms, a tethered balloon, and an airplane over Japan and China¹⁻³). More than sixty strains were isolated as atmospheric bioaerosol over Dunhuang City in China and Suzu City in Japan using separated rich-culture method, metagenomic method, and separated culture method of halotolerant bacteria by a tethered balloon or an airplane. The study of atmospheric bioaerosol over Antarctica will be focused on because it is attracting attention to find the microorganism in Antarctic ice cores⁴), investigate the long-range transport of atmospheric bioaerosol⁵), and be starting the worldwide bioaerosol observations⁶). To apply our previous methods in the study on KOSA bioaerosol, the direct sampling and bio-analysis of atmospheric bioaerosol over Antarctica will be tried. The results and finding of atmospheric bioaerosol over Antarctica will be establish the strong and important impacts to not only biogeography, ecology, history of the Earth, theory of evolution, influence of health, ice-forming nucleus, and global long-range transports of atmospheric bioaerosols, but also investigation on ecosystem in the sky.

References

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