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Letters

Eco-environmental Change Records of Antarctic Ice-free Areas in the Sediments Influenced by Marine Animals

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摘要

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Eco-environmental Change Records of Antarctic Ice-free Areas in the Sediments Influenced by Marine Animals

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Abstract The accumulative profiles of seabird and sea animal excrement together with the depositional sequences influenced by the excrement have been utilized to reconstruct the historical populations of Antarctic penguins and seals, also to study the eco-geology in the ice-free areas of Antarctica and Arctic. The historical populations of Antarctic penguins show dramatic fluctuations, the period of sharp decrease coincides well with Neoglaciation, and extremely cold or warm climate conditions are unfavorable for the survival of Antarctic penguin. The historical change of seal population seems to be related to climatic variations, sea-ice coverage and its forage behavior. The fluctuations of Hg (mercury) in the seal hairs and the sediments influenced by seal excrement were found to be closely associated with ancient gold and silver mining activities and the ancient civilization over the past several thousand years.

Key words Antarctica sediments influenced by animal excrements penguin seal eco-environmental variation human civilization

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