

## 25年間、-20度で冷凍保存された蘚類サンプルで生存していた南極線虫 *Plectus murrayi*

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### Multi-decadal survival of an antarctic nematode, *Plectus murrayi*, in a -20°C stored moss sample

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It is not clear for how long Antarctic soil nematodes might tolerate freezing. Samples of the Antarctic moss, *Bryum argenteum*, were collected on 1 October 1983 at Langhovde, Soya coast, eastern Antarctica and were stored at -20°C. After 25.5 years of storage, living nematodes were recovered from the samples and were identified as *Plectus murrayi* by morphological examination and nucleotide sequencing of ribosomal RNA loci. The nematodes can grow and reproduce in a water agar plate with bacteria (mainly *Pseudomonas sp.*) cultured from the moss extract. They showed freezing tolerance at -20°C and -80°C and their survival rate after exposure to -20°C, but not -80°C, was increased if they were frozen slowly at a high sub-zero temperature. They also showed some ability to tolerate desiccation stress. Our results indicated that *P. murrayi* can survive freezing for at least several decades.