

Metadata Details

Title

Recording Aerobic Culturable Microbial Load of Soil Core Samples from Larsemann Hills, East Antarctica.

Science Keywords

Category	Land Surface
Topic	Soils
Expedition Year	2007-2008
ISO Topic	Environment

Summary

Abstract

Larsemann Hills is an ice-free area of around 40 square km, located in Princess Elizabeth Land, East Antarctica. In this study, five soil cores were collected from five different locations in Larsemann Hills. A great variation of four major types of bacterial colonies, based on their size and colour, was found and recorded; when the soil suspension was plated both onto Nutrient Agar and Yeast Extract Agar media. These microbes were grown in different media and different temperatures. Their morphology was examined by Scanning Electron Microscopic and growth pattern at different temperature ranging from 4 °C to 37 °C was also recorded. The samples showed a great variability, although collected from almost same geographical region.

Purpose

In this study, five soil cores were collected from five different locations in Larsemann Hills. For collection, sterilized steel borers were used, with a diameter of 1 cm and length of 8 cm. Hammer was used to push the borer into the soil. Steel piston of compatible diameter was used for pushing the soil out of the borer into sterilized cryovials of 5 ml volume. The borer and piston were washed and burned every time, before collecting soil from a new location, to eliminate any chance of contamination. In every location air temperature, soil temperature, and the coordinates were recorded. After collection, the samples were stored in 24 °C in the refrigerator.

Data Center