

The Christian Science Monitor

bright green blog

Antarctic discovery: Microorganisms live millions of years without light or oxygen

By Judy Lowe | 04.17.09

In the dark and chilling cold 1,300 feet beneath a glacier, a colony of bacteria has survived for nearly 2 million years without light and oxygen, living on iron and sulfur compounds. Because of this, they “provide insight into how life may have survived ‘Snowball Earth’ — periods when some scientists speculate that the planet was entombed in ice — and hint at the possibility of life in other inhospitable environments, such as Mars and Jupiter’s icy moon Europa,” [writes Jackie Grom in ScienceNOW Daily News](#).

“It’s a bit like finding a forest that nobody has seen for 1.5 million years,” explained Ann Pearson, the Thomas D. Cabot Professor of Earth and Planetary Sciences at Harvard, [who was quoted by RedOrbit](#).

The researchers, whose discovery was reported in today’s issue of the journal *Science*, found that the colony contained at least 17 different types of microorganisms. “The only thing keeping the microbes alive, the study says, is their ability to generate energy from chemical reactions with sulfur and iron,” [reports National Geographic](#).

The area of study is known as Blood Falls, which, as its name implies, is red and so has long interested researchers. It’s in the region known as McMurdo Dry Valleys, “below Taylor Glacier, next to frozen Lake Bonney in eastern Antarctica,” [says UPI](#). “The water averages 14 degrees Fahrenheit, but doesn’t freeze because it is three or four times saltier than the ocean.”

Because the microorganisms were [closer to marine organisms](#) than to those found on land, [researchers concluded](#) that their ancestors very likely lived in the ocean at one time.

[The Associated Press reports](#): Among the big questions here are: “How does an ecosystem function below glaciers?”, ‘How are they able to persist below hundreds of meters of ice and live in permanently cold and dark conditions for extended periods of time, in the case of Blood Falls, over millions of years?’ said lead researcher Jill Mikucki, now at Dartmouth College.

Read more in Bob Cowen’s [column in the Monitor’s Innovation section](#): “Common signs that life is built to survive, from humans to bacteria.”

[| Main](#)

www.csmonitor.com | Copyright © 2008 The Christian Science Monitor. All rights reserved.