

Free research paper on race is on to find life under antarctic ice sheet

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Summary of Article:

The article is by Alissa de Carbonnel; published online by Reuters, Mon, Feb 13 2012. It describes the race between Russia, the USA and Britain to discover new kinds of life that may have adapted to the extreme conditions beneath the Antarctic ice. Any discovery may help us learn more about evolution and whether life may also exist on other planets of our solar system.

Progress to date:

Russia is in the lead, having drilled through the surface crust some 12,365 feet thick, down to Lake Vostok – a freshwater lake undisturbed for at least 15 million years. However, their samples of frozen water from the lake can't be collected for later analysis in Russia until the end of the Antarctic winter, so not until 2013.

In the meantime, U. S. and British scientists will use microscopes to analyse on-site the water samples retrieved from lakes at lesser depths, on expeditions scheduled for mid-October 2012 to February 2013. (The Russians will have to take their samples home for analysis).

Arguments over the Different Techniques:

The Russian drilling has ended leaving an unpolluted plug of frozen lake water in the bottom of their borehole, which they claim will avoid contaminating the lake. The U. S. and British teams will drill with hot water melted from ice – filtered and UV radiated to ensure purity – and will

immediately withdraw samples from the lakes before the borehole re-freezes.

However, Valery Lukin, in charge of the Russian expedition, states that boiling water falling into the lakes will contaminate them, and therefore casts doubts on any findings.

Conclusions:

Studying Antarctica's sterile underground lakes may provide information about evolution on Earth as well clues in the search for life on other planets. Because those ancient Antarctic waters may be super-saturated with oxygen and other gases it could be - despite the complete absence of sunlight - therefore able to support life in the form of bacteria and archaea, single-celled micro-organisms, which may live on other organic matter within the water, as suggested by Kimball, (2009). Whoever makes the first discovery, it will undoubtedly still be of benefit to mankind.

Works Cited

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Kimball, Harry. "Under Antarctic Glacier, Life Exists Without Light, Oxygen". (April 16, 2009). Web. <http://www.newser.com/story/56378/under-antarctic-glacier-life-exists-without-light-oxygen.html>

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