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SCIENTISTS TO STUDY ANTARCTIC ORGANISMS THAT COULD GIVE CLUES TO SECRETS OF ALIEN LIFE

A team of five scientists are to search for life in frozen Antarctic lakes in the hope of understanding how to look for life on other planets.

The team, from Russia, Austria and the US, are to fly out of Cape Town on Monday and are to spend about 10 days in the Antarctic.

They are leaving from Cape Town because it is the closest point to their destination, the Schirmacher Oasis region.

The scientists are to study microbial extremophiles, micro-organisms that have adapted to living in areas where no other organism can survive, says Richard Hoover, a NASA astrobiologist.

"One of the main reasons we are interested is from the point of astrobiology," he said.

"Studying the kinds of life that exist in Antarctica can give us a better clue to how to search for life in other parts of the solar system."

Antarctica was the coldest and driest place on Earth and had lakes that were frozen year-round, making it similar to some of the other planets and moons in the solar system, Hoover said.

Many of the planets and moons in the solar system have frozen lakes and scientists believe the life there could have adapted to the conditions in ways similar to the extremophiles in Antarctica.

The Schirmacher Oasis region is ice-free, the ground is exposed and there are many freshwater lakes.

Extremophiles could also have implications for everyday life, Hoover said. One organism he discovered recently, *Spirochaeta Americana*, produces hydrogen. Being able to produce hydrogen biologically could have implications for the hydrogen economy, he said.

The expedition was "extremely important to the science of astrobiology and microbiology and ultimately we hope there will be benefits for all mankind".

Fourteen scientists would leave for a second expedition in December and would carry out extensive research on Lake Untersee, which was "unlike any other place on Earth", Hoover says.

Immediately under the ice, which was about five metres thick, the water was even more alkaline than bleach. There were no known organisms that could survive in water that was cold and extremely alkaline and there were few places with both these conditions, Hoover said.

"Any organism in the upper 70 metres will be new to science," said Hoover.

The other four scientists going on the expedition are James N Pritzker of the Tawani Foundation, Dale Anderson of the Carl Sagan Centre for the Study of Life in the Universe, Valery Galchenko of the Winogradsky Institute of Microbiology, and Art Mortvedt of the Polar Expedition Ltd.

During the first expedition the scientists are to be guests of the Russian Novo Research Station and the Russian Arctic and Antarctic Research Institute.

The expedition is funded by the Tawani Foundation in Chicago.

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