

Can Earth life survive on Mars?

July 24 2019



Barren landscape on the planet Mars. Credit: ImageMostphotos/Simon Alvinge

Is there life on Mars, and can life from Earth survive there—or on other space bodies? The international BIOMEX research team, which includes researchers from many countries and space organizations, including Natuschka Lee at Umeå University, Sweden, has made biological experiments under space conditions. An overview of their results has now been published.

Life on Mars is a research topic that employs many researchers around the world. The international BIOMEX research team (BIOlogy and Mars Experiment) has done a preliminary study into how [organisms](#) from Earth can survive under Mars-like conditions.

The purpose of the BIOMEX project was to investigate how different biological samples (including various microbes, fungi, lichen, mosses and various biochemical substances and minerals) can survive under various [space](#) conditions.

This was a long-lasting project where the researchers first studied the samples in space simulation laboratories on Earth to identify the most stress-tolerant organisms. Then they were sent to the International Space Station ISS to be exposed to real space conditions for about 1.5 years, before being sent back to Earth and the various research laboratories for different surveys.

"The first results have now been published and they have shown that although different types of stress reactions could be observed, a number of organisms showed surprising survival strategies," says Natuschka Lee, researcher at the Department of Ecology and Environmental Sciences at Umeå University.

More information: Jean-Pierre de Vera et al. Limits of Life and the Habitability of Mars: The ESA Space Experiment BIOMEX on the ISS, *Astrobiology* (2019). [DOI: 10.1089/ast.2018.1897](https://doi.org/10.1089/ast.2018.1897)

Provided by Umea University

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