

Peer Review

Review of: "The Limits of Life at Extremely Low Water Activity: Lithium-Concentration Ponds in a Solar Saltern (Salar de Atacama, Chile)"

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Dear authors, I found the argument fascinating. Extremophilic microorganisms, which live in conditions that are prohibitive if not lethal for the vast majority of living beings, represent a unique opportunity. The study of their often sophisticated mechanisms of adaptation to extreme environments is, in addition to being extremely fascinating, also fundamental to better understanding how life has colonized our planet.

The manuscript is well structured: not an excessively long introduction, well-described materials and methods, and a timely and detailed discussion of the results.

Regarding the results, discovering the almost total absence of Archaea in the area with the highest salt concentration and the related supporting hypotheses is fascinating. Further studies on other samples taken in similar environments will be crucial to support these hypotheses.

The figures and tables represent the experimental results well. The supplementary material part is also very well done. The images of the experiments are always much appreciated.

Exploring other extreme saline environments, such as salt caverns for Underground Hydrogen Storage, will be very interesting and scientifically crucial. In particular, studying the interaction of metals with microbial metabolism is fundamental since the biosphere is inextricably linked to the geosphere.

Declarations

Potential competing interests: No potential competing interests to declare.