

Thermophiles from Mono Lake basin

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As the climate of ancient Mars became colder and drier with time, open bodies of water would have entered a regime in which evaporation exceeded input from precipitation or runoff. This would have resulted in increases in salinity and perhaps pH. The last open water on Mars was most likely found in alkaline hypersaline lakes, and these lakes would have been the last surface aquatic habitats for life on Mars. It follows, then, that the biomarkers most likely to be found in ancient sedimentary basins on Mars are those left by organisms adapted to high salt and high pH environments. We have begun to investigate the nature of biological diversity and adaptation to these environments, and the potential for biomarker preservation in them, using Mono Lake as a terrestrial analog environment. We will present data on alkalophiles and thermophiles isolated from Mono Lake basin (California).