

Special Paper

“Hairy Blobs:” Microbial Suspects Preserved in Modern and Ancient Extremely Acid Lake Evaporites

Kathleen C. Benison,¹ Elliot A. Jagniecki,¹ Tina B. Edwards,^{1,*} Melanie R. Mormile,² and Michael C. Storrie-Lombardi³

Abstract

“Hairy blobs” are unusual clumps of organic bodies and sulfate crystals that have been found in evaporite minerals grown in acid saline lakes. Here, we document modern hairy blobs in halite and gypsum from 5 modern acid saline lakes in southern Western Australia, and Permian hairy blobs trapped in halite from the mid-Permian Opeche Shale in the subsurface of North Dakota. These are among the first microbial remains described from acid saline lake environments. They give clues about the role of microorganisms in the acidity, geochemistry, and mineralogy of these extreme environments. This study also may add to the inventory of life in extreme environments and help predict possible martian life-forms and the method of preservation. **Key Words:** Acidophiles—Halophiles—Microfossils—Astrobiology—Exobiology—Life in acid saline environments. *Astrobiology* 8, xxx–xxx.

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