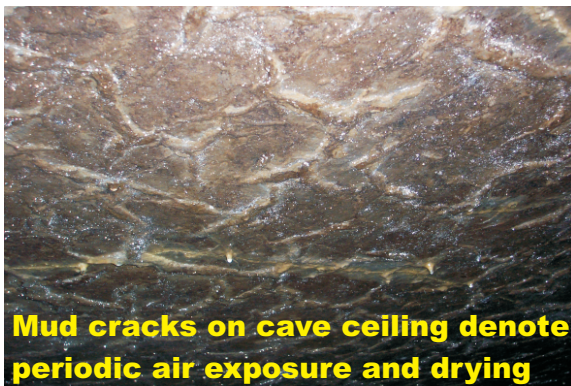


Tales from the depths of Howe Caverns ...

HOWE CAVERNS' STROMATOLITE REEF



Ripple marks



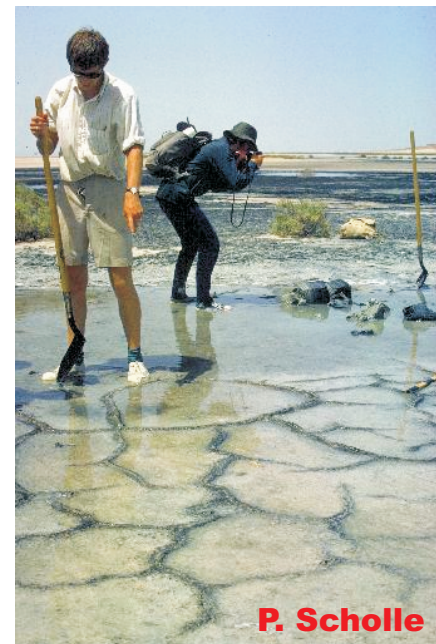
Mud cracks on cave ceiling denote periodic air exposure and drying



Stromatopoids



**Mud cracks at
Reflecting Pool**



**P. Scholle
Middle-intertidal cyano-
bacterial stromatolites;
Abu Dhabi, Asia**

The middle Manlius limestone records an alternating intertidal and supratidal (above the tide) environment, as reflected in the presence of mud cracks, ripple marks, stromatopoids, and stromatolites. The climate was very hot, much like the shoreline of the Persian Gulf is today. Stromatolites are made up of cyanobacteria, formerly thought to be blue-green algae. They first appeared on earth about 3.5 billion years ago and are responsible for generating the earth's oxygen that then allowed the evolution of complex species. The layered appearance of these microbial mats results from accumulations of sediment trapped, bound, or precipitated by the bacteria. These reef builders were thought to be extinct until 1956 when they were first discovered in Hamelin Pool, Shark Bay, Australia.