

22 May 2008

By: Gabriel Gache, Science News Editor



Rich iron rock preserving microbes that lived nearly 2 million years ago  
David Fernandez-Remolar

## [Life Can Grow Just About Anywhere](#)

### *Underground microbial life improved the environment for the arrival of other creatures*

Finding inhospitable places for life on Earth is extremely difficult; just about any location you can lay your eyes on is most likely populated to some extent with microbial life, if not with other living specimens. Researchers from the Mars Astrobiology Research and Technology Experiment, MARTE for short, have recently found such an inhospitable place in the ground beneath Rion Tito in Spain. The area was colonized nearly 2 million years ago by microbes that improve the conditions of the medium, so as to allow other creatures to colonize the area. On Earth this process doesn't seem too spectacular, although it may have significant implications when it comes to other planets in the solar system and the galaxy. One would expect that underground locations are deprived of life, but David Fernandez-Remolar from the Centro de Astrobiología found out that the environment was perfect for microbial life, which reacted with the rocks and released heat in the process. The heat was then absorbed in the surrounding medium and the overall temperature rose just enough to allow other beings to move in. Additionally, the researching team revealed that rock acidity was mostly inexistent, having been neutralized by metals, and although the microbes themselves were not involved in this process, they benefited from it since it made water suitable for sustaining life. The same processes could help us understand whether or not life was present on Mars in a distant past. All we have to do is look for slight underground temperature increases or chemicals that would help decrease the acidity of water. It is believed that Mars was much warmer in the past. If this is true, then warm water would have been circulated through the underground of the planet, allowing the formation of metallic ores that could be processed by similar microbial life. But if water had been in liquid state, then it could have also protected life from lethal ultraviolet radiation coming from the Sun. In the end, the effects produced by such microbes would have allowed them to evolve into even more complex microbial life, until the climate of the planet changed to the bitter cold and dusty one we see today. "It may be possible that the inner habitats of planets were not only the first refuge of life, but may also have become the last for planets such as Mars", the researchers say. There is a possibility that the first alien life we encounter is a microbe and not an evolved and intelligent species. However, we should not overlook the fact that the intelligent aliens we've been dreaming about might be the result of the hard work done by microbial life.