Link

Science works through Mars lander life controversy…

David Link

The Viking lander mission's series of assays known collectively as the Labeled Release experiment (LR) continues to give rise to controversy, Mario Crocco, Director of the Neurobiology Research Centre at Ministry of Health in the Argentine Republic reports.

The LR was designed to test for the presence of microbial life. The experiments were designed to detect the metabolism of an introduced radioactively labeled nutrient source. The positive results were argued by many to be merely proof of an oxidizing surface on Mars.

On March 22, 2007, leading scientists in extraterrestrial biology and geology attended a seminar titled, "The Case for Life on Mars" at the Washington State University School of Earth and Environmental Sciences. The discussion was directed toward the possibility of a Martian life solvent being composed of H_2O_2-H_2O rather than H_2O.

Crocco has developed a taxonomical entry for the active agent on Mars, which he calls *Gillevinia straata* (named for the LR experimenters Gilbert Levin and Patricia Straat), and that is characterized by its behavior based on the reports from Viking's LR experiment.

Crocco's published paper on the classification attaches a name to the putative Martian life using taxonomic conventions. In current taxonomy, the organism's DNA plays a large part in identification and naming, but Crocco does not have DNA evidence of the organism. The organism has never been isolated and therefore is a rare specimen to go through the taxonomic process.

There is a precedent for taxonomy of hypothetical organisms for teaching purposes. It has also been argued that beginning a taxonomic discussion raises the visibility of a putative organism and encourages further research.

Naming such an organism has stirred controversy in the scientific community, many of whom believe the naming to be premature since whatever caused the response in Viking might be a mixture of organisms, some of which could be terrestrial. "Naming and classifying as proposed is highly inappropriate. Classification is useful and credible only when similarities and differences can be clearly identified and specified," stated Dr. Phil Crowley, Professor in the Department of Biology at the University of Kentucky.

The evidence used to name an organism and even a species seems insufficient according to Dr. Crowley. "Using this method on Earth and obtaining similar results would never be accepted as the basis for naming a taxon. Naming a 'species' at this point could lend inappropriate credibility to the possibility that life has indeed been detected," continued Dr. Crowley.

Controversy will likely continue due to the nature of the organism and the many "Bigger Questions" such controversy seems to either assume or answer. Though some believe that taking the organism through taxonomy can jump-start research, others believe the move is still premature.

Mario Crocco reports his developments, including a thorough examination of the LR's experimental design, and results in the April 2007 issue of *Electroneurobiología*.

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