



# Aliens On Earth.com

Resources for those who are stranded here



## Our Bookstore is **OPEN**

*Over 5000 new & used titles, competitively priced!*

Topics: [UFOs](#) - [Paranormal](#) - [Area 51](#) - [Ghosts](#) - [Fortean](#) - [Conspiracy](#) - [History](#) - [Biography](#) - [Psychology](#) - [Religion](#) - [Crime](#) - [Health](#) - [Geography](#) - [Maps](#) - [Science](#) - [Money](#) - [Language](#) - [Recreation](#) - [Technology](#) - [Fiction](#) - [Other](#) - [New](#)

Search... for keyword(s)

in Page Titles

Location: [Mothership](#) -> [UFO](#) -> [Updates](#) -> [1998](#) -> [Sep](#) -> Earth Microbes On The Moon

## UFO UpDates Mailing List

### Earth Microbes On The Moon

From: Stig Agermose <[Stig.Agermose@online.pol.dk](mailto:Stig.Agermose@online.pol.dk)>  
Date: Tue, 1 Sep 1998 02:04:44 +0200  
Fwd Date: Tue, 01 Sep 1998 07:41:10 -0400  
Subject: Earth Microbes On The Moon

Excerpt of NASA news. The page is impossible to render in txt-format, but this is the URL

[http://science.nasa.gov/newhome/headlines/ast01sep98\\_1.htm](http://science.nasa.gov/newhome/headlines/ast01sep98_1.htm)

Stig

\*\*\*\*\*

Earth microbes on the moon=BF

Three decades after Apollo 12, a remarkable colony of lunar survivors revisited

September 1, 1998: For a human, unprotected space travel is a short trip measured in seconds.

What could be worse for would-be space travelers than a catastrophic breach in their protective spacesuits, the high-tech, multilayered fabric blanket that balloons under the pressure of a life-saving flow of oxygen and insulates against the frozen harshness of deep-space vacuum?

But for some kinds of microbes, the harshness of space travel is not unlike their everyday stressful existence, the successful execution of ingenious survival tricks learned over billions of years of Earth-bound evolution.

(Click the image at right for a synopsis (below) of astrobiology at NASA's Marshall Space Flight Center.)

Forthcoming anniversary

Space historians will recall that the journey to the stars has more than one life form on its passenger list: the names of a dozen Apollo astronauts who walked on the moon and one inadvertent stowaway, a common bacteria, *Streptococcus mitis*, the only known survivor of unprotected space travel. As Marshall astronomers and biologists met recently to discuss biological limits to life on Earth, the question of how an Earth bacteria could survive in a vacuum without nutrients, water and radiation protection was less speculative than might first be imagined. A little more than a month before the forthcoming millennium celebration, NASA will mark without fanfare the thirty year anniversary of documenting a microbe's first successful journey

from Earth.

#### Apollo 12 remembered

In 1991, as Apollo 12 Commander Pete Conrad reviewed the transcripts of his conversations relayed from the moon back to Earth, the significance of the only known microbial survivor of harsh interplanetary travel struck him as profound:

"I always thought the most significant thing that we ever found=BFon the whole...Moon was that little bacteria who came back and lived and nobody ever said [anything] about it."=BF

(Left: Astronaut Pete Conrad (photographed by crew mate Alan Bean) inspects Surveyor 3's camera assembly. Surveyor 3 landed on the moon on April 20, 1967, at 2.94=95 S, 23.34=95 W in Oceanus Procellarum. On Nov. 12, 1969, Conrad and Bean piloted the Apollo 12 Lunar Module (background) to a landing 156 m (512 ft) away.)

Although the space-faring microbe was described in a 1970 Newsweek article, along with features in Sky and Telescope and Aviation Week and Space Technology, the significance of a living organism surviving for nearly three years in the harsh lunar environment may only now be placed in perspective, after three decades of the biological revolution in understanding life and its favored conditions. As the lunar voyagers answered a similar question more than a century ago, in Jules Verne's classic, From the Earth to the Moon: "To those who maintain that the planets are not inhabited one may reply:=BFYou might be perfectly in the right, if you could only show that the earth is the best possible world."=BF

The remarkable lunar survivor from Apollo 12 thus gives scientific pause.

#### Three decades, the biological revolution

To a biologist, freeze-drying microbes for harsh space travel conjures up rather mundane kitchen science, a simple reenactment of how a yeast packet taken from the freezer can make bread dough rise prior to baking. But to a new breed of biologist exploring the harshest conditions on Earth, how a delicate microbe manages to counteract vacuum, boiling temperatures, burning radiation, and crushing pressures deep in the frozen icecaps is the study of life itself.=BF

For example, only now after 30 years of biological progress can scientists begin to scan down the genetic script underlying the causes of malaria, syphilis, cholera and tuberculosis. Within a few years, it is estimated that 50 to 100 complete genomes of living organisms will be entirely deciphered, presenting the first opportunities for deep evolutionary comparisons and insights into exactly the remarkable means by which the common Strep. bacteria could revive itself after 2.6 years on the moon.

(Left: Interior view of Surveyor 3 TV camera; surviving microorganisms cultured from the polyurethane foam insulation (1 mL) covering the circuit boards (upper left).)

---

[ [Next Message](#) | [This Day's Messages](#) ]  
[ [This Month's Index](#) | [UFO UpDates Main Index](#) | [MUFON Ontario](#) ]

**UFO UpDates - Toronto - [updates@globalserve.net](mailto:updates@globalserve.net)**  
Operated by Errol Bruce-Knapp - ++ 416-696-0304

A Hand-Operated E-Mail Subscription Service for the Study of UFO Related Phenomena.  
To subscribe please send your first and last name to [updates@globalserve.net](mailto:updates@globalserve.net)  
Message submissions should be sent to the same address.

[ [UFO Topics](#) | [People](#) | [Ufomind What's New](#) | [Ufomind Top Level](#) ]

**To find this message again in the future...**  
Link it to the appropriate [Ufologist](#) or [UFO Topic](#) page.

Archived as a public service by [Area 51 Research Center](#) which is not responsible for content.  
Software by Glenn Campbell. Technical contact: [webmaster@ufomind.com](mailto:webmaster@ufomind.com)

Financial support for this web server is provided by the [Research Center Catalog](#).