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Space Rocks Could Re-Colonize Earth

Study reveals that life is more resilient than previously thought

Asteroid and comet collisions usually bring havoc to Earth, often provoking mass extinctions, but they can also seed life. In fact, we're most likely the product of such an event that took place several hundred million years ago. The last large impact that occurred is dated about 65 million years in the past and was probably responsible for the extinction of the dinosaurs at the end of the Cretaceous Period. The impact would have released a great deal of material into Earth's atmosphere, filling it with debris that blocked the sunlight, set forests on fire and destroyed most of the life on Earth only to leave room for the evolution of the mankind. Just as the dinosaurs, our civilization could be wiped off the surface of the planet in an instant. However, debris ejected by an asteroid impact could just as well reach space and seed life onto another planet, in a distant future, or, it could even rain back to the planet of origin after the effects of the impact are dispersed. But the survival of the organisms put into orbit around a planet is dependent of a series of chain events through which they must pass in order to re-seed a planet with life. For starters, there's the impact. Secondly, the velocity of the debris ejected into the atmosphere must exceed that of the escape velocity of the planet or they will never reach orbit. They, the organisms, must be tough enough to survive in the harsh environment of space until gravity pulls them back to the surface. Once the gravitational field does its job, faith must take its course. The rock carrying the organism could easily burn into the atmosphere or it could be subjected only to high temperatures and pressures to deliver the organism back to the surface of the planet unharmed. Studies show that organisms such as 'endoliths' would be the perfect subjects for such a dangerous trip. Only recently, Gerda Horneck of the Institute of Aerospace Medicine was able to reveal that these organisms have a very high resilience during space trips. During her investigation, Horneck studied a series of bacteria such as endospores, cyanobacteria, lichens and endoliths, and even complex organisms such as eukaryotic bacteria. By subjecting life-containing rocks to pressures similar to those experienced by Martian meteorites during ejection into space, Horneck discovered that in fact a certain range of organisms would be able to survive a potential voyage between Mars and Earth. "Our results enlarge the number of potential organisms that might be able to reseed a planetary surface after early very large impact events, and suggest that such a re-seeding scenario on a planetary surface is possible with diverse organisms", Institute of Aerospace Medicine researchers said.