

By: ~~Carrie G. 2007~~ Science News Editor

## Meteorites Bring Life or Death?

### *Biodiversity event could have been triggered by meteorite impact*

Although most of the time they are associated to death and destruction, asteroids such as the one responsible for the extinction of the marine life 250 million years ago, or that of the dinosaurs more than 65 million years ago, traveling through the immensity of space could have also brought organic materials, necessary for life to appear and evolve, and why not even life itself. Even today some scientists have a difficult time accepting that the extinction of the dinosaur species might have been triggered by Earth's collision with a relatively large asteroid, let alone the theory that the explosion of biodiversity of life that took place about 470 millions years ago was produced by a catastrophic meteorite impact. According to Birger Schmitz from the University of Lund, the author of the theory, during the Ordovician Period, 470 million years ago, two large asteroids inside the asteroid belt collided, ejecting debris all over the solar system. Eventually, some of the debris reaching up to two kilometers in diameter, were sent towards the inner regions of the solar system, some hitting our planet. The theory is further supported by the observations of the small meteorites raining down to the surface of the Earth, which could represent more than 20 percent of the mass ejected during the collision event. Meteorites are mostly made of chondrites, although small traces of radioactive chromium could also be present. So Schmitz was able to determine how often the meteorites stroke the surface of the planet, and how much material was brought by the space rocks during this process. Schmitz estimates that during the event that took place more than 470 million years ago, meteorites would have brought about 100 times more material before the biodiversity process occurred. The theory revealed by Schmitz, took more than a decade to develop, the study including creating computer models and simulations and even the dissolving of a ton of rock brought from all over the world in order to extract pieces of radioactive chromium. He approximates that it might take another 15 years of research before they would be able to point towards the craters created by the meteorite collisions during that period, in order to make a clear connection between the biodiversity explosion and the impacts. However, though the meteorite shower might have triggered the phenomenon, it is not yet certain through what process this biodiversity explosion took place. At the same time, we might have been a little too lucky, as even larger impactors would cause life to disappear altogether. Nevertheless, for now the connection between the two events is indistinguishable.