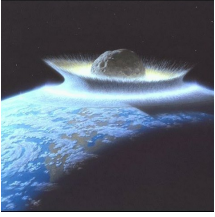


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By: Gabriel Gache, Science News Editor



Artistic impression of a catastrophic impact resonancepub

## **Mass Extinctions Blamed on the Sun's Path Through the Galaxy**

*Other researchers say there is no evidence to support the theory*

As it travels through the Milky Way, the Sun experiences a periodical oscillation in relation to the galactic plane, meaning that the solar system intersects with some of the densest areas of the galaxy. This in turn can send comets and asteroids our way and determine catastrophic impacts with the Earth, such as that which killed the dinosaurs some 65 million years ago. The same impacts could help spread life to other regions of the galaxy. According to calculations, the Sun passes through the galactic plane once every 35 to 40 million years. When this happens, the gravitational pull exerted by the large masses of gas disturbs the trajectories of the comets and asteroids inside the Oort Cloud and sends the hurtling towards the Sun. Interestingly enough, mass extinctions on Earth take place once every 36 million years or so. "It's a beautiful match between what we see on the ground and what is expected from the galactic record", said William Napier, Cardiff Center for Astrobiology researcher and author of the new study. "Microorganisms thrown into space from this barrage can pass straight into star - and planet - forming regions within the nebula, without being sterilized en route by cosmic rays. This opens the door to the exciting idea that life may spread not just within the solar system, but may be pan-galactic", he said. The problem is that the theory doesn't seem to have any application in reality. "The whole concept is wrong. As you cross the galactic plane, it's not like you go over a speed bump. The variation on any cratering rate would be very gentle, not in sudden pulses", says NASA Jet Propulsion Laboratory astronomer Paul Weissman. According to other previous studies, mass extinctions took place once every 30 million years or so, but Weissman says that scientific evidence shows that mass extinctions don't take place at regular intervals. Alternative scenarios predict either the birth of a red dwarf star or the presence of a tenth planet orbiting the Sun inside or beyond the Oort Cloud. "Many researchers, including myself, responded to these ideas, pointing out faults in the logic. The distant red dwarf star was in a highly unstable orbit that would escape to interstellar space after about 10 orbits on average. Not only that there is no evidence for a large planet beyond Neptune, despite numerous searches", but the required orbit for such a planet would have to have just the right characteristics to keep it stable, said Weissman.