

An Asteroid Wiped Out the Dinosaurs

A giant asteroid smashing into Earth is the only plausible explanation for the extinction of the dinosaurs, a global scientific team said on Thursday, hoping to settle a row that has divided experts for decades.

A panel of 41 scientists from across the world reviewed 20 years' worth of research to try to confirm the cause of the so-called Cretaceous-Tertiary (KT) extinction, which created a "hellish environment" around 65 million years ago and wiped out more than half of all species on the planet.

Scientific opinion was split over whether the extinction was caused by an asteroid or by volcanic activity in the Deccan Traps in what is now India, where there were a series of super volcanic eruptions that lasted around 1.5 million years.

The new study, conducted by scientists from Europe, the United States, Mexico, Canada and Japan and published in the journal *Science*, found that a 15-kilometre (9 miles) wide asteroid slamming into Earth at Chicxulub in what is now Mexico was the culprit.

"We now have great confidence that an asteroid was the cause of the KT extinction. This triggered large-scale fires, earthquakes measuring more than 10 on the Richter scale, and continental landslides, which created tsunamis," said Joanna Morgan of Imperial College London, a co-author of the review.

The asteroid is thought to have hit Earth with a force a billion times more powerful than the atomic bomb at Hiroshima.

Morgan said the "final nail in the coffin for the dinosaurs" came when blasted material flew into the atmosphere, shrouding the planet in darkness, causing a global winter and "killing off many species that couldn't adapt to this hellish environment."

Scientists working on the study analysed the work of palaeontologists, geochemists, climate modellers, geophysicists and sedimentologists who have been collecting evidence about the KT extinction over the last 20 years.

Geological records show the event that triggered the dinosaurs' demise rapidly destroyed marine and land ecosystems, they said, and the asteroid hit "is the only plausible explanation for this".

Peter Schulte of the University of Erlangen in Germany, a lead author on the study, said fossil records clearly show a mass extinction about 65.5 million years ago – a time now known as the K-Pg boundary.

Despite evidence of active volcanism in India, marine and land ecosystems only showed minor changes in the 500,000 years before the K-Pg boundary, suggesting the extinction did not come earlier and was not prompted by eruptions.

The Deccan volcano theory is also thrown into doubt by models of atmospheric chemistry, the team said, which show the asteroid impact would have released much larger amounts of sulphur, dust and soot in a much shorter time than the volcanic eruptions could have, causing extreme darkening and cooling.

Gareth Collins, another co-author from Imperial College, said the asteroid impact created a "hellish day" that signalled the end of the 160-million-year reign of the dinosaurs, but also turned out to be a great day for mammals.

"The KT extinction was a pivotal moment in Earth's history, which ultimately paved the way for humans to become the dominant species on Earth," he wrote in a commentary on the study.

(Source: Reuters)