

Extinction event spared dinosaurs, researchers say

May 11, 2001
The oldest mass?

BY CAROLINE ALPHONSO, VANCOUVER

An asteroid that smacked the Earth millions of years ago is thought to have killed all dinosaurs, but now there's evidence that these creatures survived another earth-shattering event, possibly an asteroid, that wiped out at least half of all other species, a new study says.

That event, about 200 million years ago, may have been the death knell for most species, but it helped make dinosaurs the rulers of the Earth, said Peter Ward, a University of Washington paleontologist who led the study.

"Dinosaurs skated through this, but large mammal-like reptiles went completely extinct," Dr. Ward said.

The study will be published today in the journal *Science*.

Dr. Ward's team studied the extinction of a type of marine plankton in the Queen Charlotte Islands, off the coast of British Columbia. The single-cell organisms, called radiolaria, served as a food source for numerous marine species.

The researchers examined fossil samples indicating a collapse of the plankton population from two remote sites on the islands: the northern point and Kunga Island, 160 kilometres to the southeast.

More than 50 species of radiolaria disappeared 200 million years ago, between the Triassic and Jurassic periods in the Mesozoic era, an indication of a major biological crisis.

During that time, dinosaurs were relatively small, Mr. Ward said. They were locked in a survival-of-the-fittest battle with other animals, including the mammal-like

The mass extinction took less than 10,000 years — the blink of an eye, geologically speaking.

Researchers are trying to confirm that an asteroid was the cause of the change. They say other possibilities include volcanic activity or an explosion of a nearby star.

Dr. Ward said a vast crater in Quebec called the Manicouagan structure, which is 100 kilometres wide, could be the impact site. The crater has been dated to 214 million years ago, which he said may be too old.

"Something suddenly killed off more than 50 per cent of all species on Earth, and that led to the age of dinosaurs," he said.

"One of the great mysteries has been ... why would these creatures, which are seemingly better adapted for eating a variety of plant sources, die out and the dinosaurs not? And the answer is: Mass extinction doesn't give a hoot about your adaptations for everyday life. There's a lottery involved, for whatever reason," Mr. Ward said.

The event has similarities to two better-known mass extinctions.

One, 250 million years ago, at the end of the Permian period, killed 90 per cent of all species. The other, 65 million years ago, at the end of the Cretaceous period, obliterated the dinosaurs.

Most scientists believe an asteroid caused the mass extinction at the end of the Cretaceous period and brought on the age of mammals.

With a report from Reuters