

Section 7: Chaos in the Cretaceous! Mass Extinction.

Fun Facts

- A marine reptile that went extinct was 35 feet long and half its length was part of the neck.
- Our CAS corals are descendants of corals that lived when the dinosaurs did.
- Crocodiles and alligators look about the same as they did 80 mya.
- The size of the asteroid that caused the K-T extinction was roughly as big across (6 miles) as about four Golden Gate bridges laid end to end.
- A pterosaur (extinct flying reptile) had a wing span of 33 feet and was about the same size as a Piper Cub airplane.

Q&A

Q: What does mass extinction mean?

A: Mass extinction is when a relatively large number of species go extinct over the relatively short interval of time. Scientists recognize about 5 major mass extinctions when over 50% went extinct very rapidly.

Q: Were there flowers during the Dino era?

A: Yes, *Archaeofructus* in diorama could have been one of the first flowering plants. Flowering plants 130 mya were rare; however, the distinctive pollen grains of angiosperms (flowering plants) first appear in the fossil record about 140 mya during the Dino era.

Q: How could birds possibly be related to dinosaurs?

A: Birds are living feathered dinosaurs that survived the K-T extinction 65 mya. Modern birds and the small, feathered dinosaurs called dromaeosaurs share a number of major skeletal characteristics: shape and position of the pubic bone; long, folded arms with claws, hollow thin bones and stiff tails. Both groups lay eggs and have both scales feathers. The wishbone (furcula), once thought unique to modern birds, was recently found on *Suchomimus* (110 to 100 mya), *Microraptor*, and even the *T. rex* named "Sue" now on display at the Field Museum in Chicago.

Q: Will there ever be another mass extinction?

A: Probably, since extinctions and mass extinctions have occurred throughout evolutionary history. Many scientists think we are in mass extinction right now because our current extinction rate is higher than any recorded in the fossil record.

Q: What can today's crocodiles and alligators tell us about their past?

A: They are descended from creatures that survived the mass extinction.

Q: What animals alive today look similar to species that became extinct?

A: All plants and animals in our world are descendants of species that survived the mass extinction of 65 mya. The animals alive today that look almost the same as they did 65 mya include crocodiles, alligators and the chambered nautilus.

Q: How do we know how many species became extinct when there was no human there?

A: We only know by finding fossil evidence of animals we know don't exist today. If they don't leave fossils, or we don't find them, we don't know they existed. But as fossils are found and studied, there are often changes in our understanding of mass extinctions.

Q: What was the major cause of the K-T extinction?

A: A huge object from outer space, a comet or asteroid the size of at least 100,000 large sport stadiums, slammed into the earth.

Q: What did the asteroid or comet crash do to cause the extinction?

A: There were many environmental disturbances which occurred. It created a lot of dust that blocked the sunlight. There was short-term cooling and acid rain. There were probably huge tsunamis and global forest fires. And there would have been long term greenhouse warming that would have caused a major change in the environment.

Q: How could any animals or plants have survived?

A: Scientists aren't sure. Suggestions for survival include animals that lived in burrows, did not depend on a single food source, and plants and animals that had a higher tolerance for acid rain.