CRETACEOUS TEXAS

Paleontological Society of Austin

The Cretaceous comprised around 40% of the Mesozoic Era. It was a period with a relatively warm climate, resulting in high sea levels that created numerous shallow inland seas.

These oceans and seas were populated with now-extinct marine reptiles, ammonites, and rudists, while dinosaurs continued to dominate on land. The world was ice free, and forests extended to the poles. During this time, new groups of mammals and birds appeared. This was also when flowering plants appeared and began to rapidly diversify, becoming the dominant group of plants across the Earth by the end of the Cretaceous.

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MARINE FAUNA

In the seas, rays, modern sharks and ray-finned fish became common. Marine reptiles included ichthyosaurs in the early and mid-Cretaceous, plesiosaurs throughout the entire period, and mosasaurs that appeared in the Late Cretaceous.

Invertebrate fossils from this time are pictured below. Ammonites, some more than 6 feet in diameter, flourished in the seas along with reef-building rudist clams (see *Eoradiolites* and *Toucasia*). Predatory gastropods with drilling habits were widespread. Echinoderms such as sea urchins and starfish thrived.

N. America in the mid Cretaceous [1]

TEXAS UNDER THE SEA

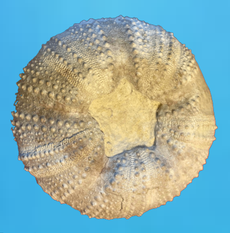
During the Cretaceous, the present North American continent was isolated, with the beginnings of the Atlantic separating Europe and North America. For extended periods during the Cretaceous, North America was split by an inland sea known as the Western Interior Seaway It included two landmasses, Laramidia to the west and Appalachia to the east. At its largest, the sea was 2,500 feet deep, 600 miles wide and over 2,000 miles long. This explains in part why we can find similar fossils from the Cretaceous era in both Austin and South Dakota.

Exogyra ponderosa. [2]

Conlinoceras sp. [2]

Eoradiolites sp. [3]

Monocyphus sp. [4]



Tertragramma sp. [4]

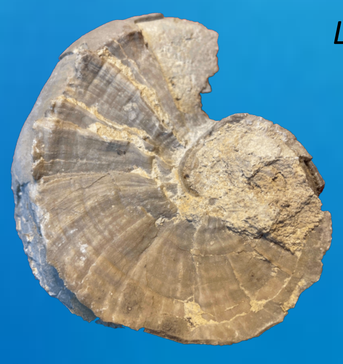
Leptosalenia sp. [2]

Hemiaster sp. [2]

Jellyfish imprint [2]

Coral [2]

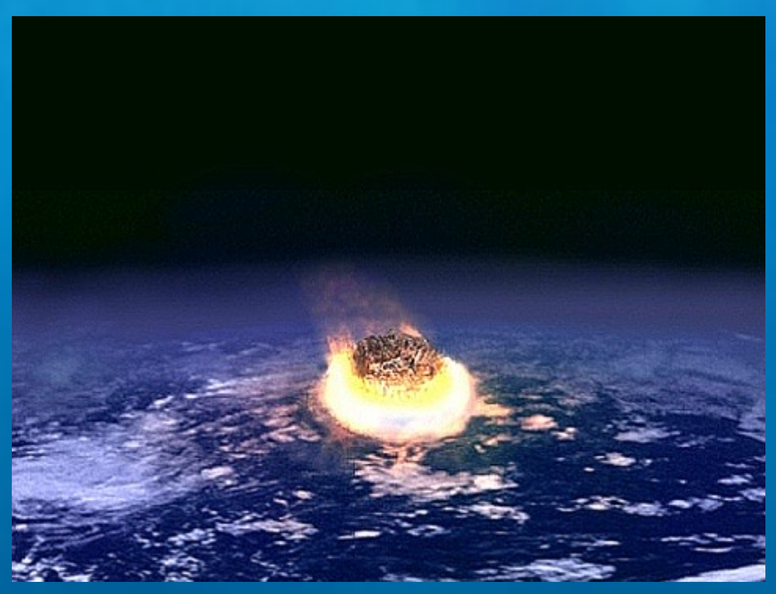
Neithea sp. [3]

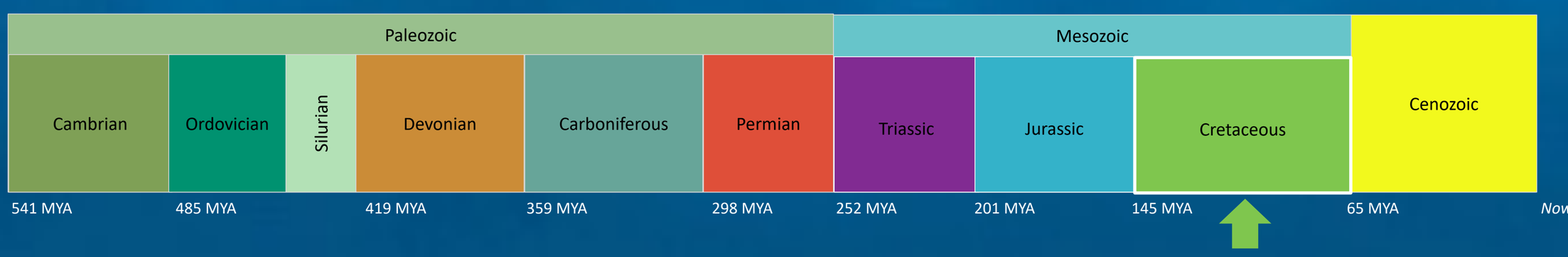


Toucasia sp. [4]

MASS EXTINCTION

The Cretaceous closed in a geological moment 66 million years ago with an event that killed off almost all the dinosaurs and some 70 percent of all other species living on Earth. Birds are the one branch of the dinosaur family that survived. The extinction also killed off plesiosaurs and mosasaurs and devastated fish, sharks, mollusks (especially ammonites, which went extinct) and many species of plankton. Scientists believe the major cause of this extinction event was a 10-kilometer-wide comet that blasted into the Gulf of Mexico traveling 30 kilometers per second - 150 times faster than a jet airliner.





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1. Underlying map from WC/North_America_second_level_political_division_2.svg (28 Nov 2015). CC BY-SA 2.5, Alex Covarrubias. Land masses drawn by M. Smith, based roughly on those in WC/Cretaceous seaway.png (28 Nov 2015). Public domain, from William A. Cobban and Kevin C. McKinney, USGS .
2. Jackson School Museum of Earth History. https://www.jsg.utexas.edu/npl/outreach/adopt-a-fossil/. Used by permission. *3.* Photographs by Jamie Shelton. Used by permission. *4.* Photographs by Michael K. Smith. Used by permission.
5. WC/Impact Event/Impact_event.jpg (25 Oct 2015). Public Domain, created by NASA. 6. USA National Park Service Public Domain. https://www.nps.gov/yuho/paleontology-at-yucca-house.htm