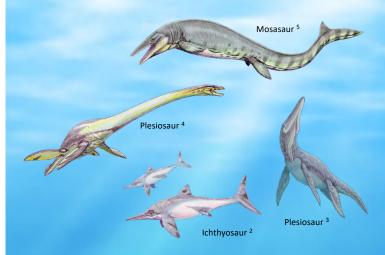
Prehistoric Sea Monsters

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The Mesozoic Era was the Age of Reptiles. It includes the Triassic, the Jurassic and the Cretaceous periods. Dinosaurs first appeared during the Triassic and were the dominant animals on land for 135 million years, until the major extinction event at the end of the Cretaceous, 66 million years ago. In parallel, reptiles evolved that ruled the oceans. These were not dinosaurs, but separate kinds of marine vertebrates (animals with backbones). Many lived in the ocean covering what is now Texas. The remains of all of these major families have been found here, including ichthyosaurs, plesiosaurs (in two varieties - long-necked and short-necked), and mosasaurs. The most frequently encountered fossils are those of the mosasuars of the mid and late Cretaceous, inhabitants of the Western Interior Seaway. All of these reptiles breathed air and bore live young.



MASS EXTINCTION

The Age of Reptiles opened with a mass-extinction at the end of the Permian, 252 MYA (million years ago). This was the most severe such event in Earth's history and marks the beginning of the Mesozoic era. Up to 96% of all marine species and 70% of terrestrial vertebrate species becoming extinct. It is the only known mass extinction of insects. Because so much biodiversity was lost, the recovery of life on Earth took significantly longer than after any other extinction event, possibly up to 10 million years. But it created opportunities for new species to evolve.

Similarly, the Age of Reptiles 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 Earth traveling 30 kilometers per second - 150 times faster than a jet airliner.



TEXAS UNDER THE SEA

At various times during the Mesozoic era, Texas was under an inland sea. The one that opened up during the mid to late Cretaceous is known as the Western Interior Seaway. It was a large inland sea that split the continent of North America into two landmasses, Laramidia to the west and Appalachia to the east. The ancient sea stretched from the Gulf of Mexico, through the middle of the modern-day countries of the United States and Canada, meeting with the Arctic Ocean to the north. At its largest, it 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 Austin as in South Dakota.



| | Triassic | | | Jurassio | : | | Cretaceous | | | |
|--------------|-----------------------------|----------|----------|----------------|-------------|--------------------------|------------|-----------|----------|--------|
| Early Middle | L | Late | | Early Midd | | 2 | Early | | Late | |
| 252 MYA 2 | 35 MYA | МХА | | 201 MYA 174 MY | | 145 MYA | | 100 MYA | | 66 MYA |
| | | | | | | | | | | |
| Cambrian | Ordovician | Silurian | Devonian | Carboniferous | Permian | | Mesozoic | | Cenozoic | |
| 541 MYA | 485 IVIYA | | 419 MYA | 359 MYA | 298 MYA | 252 million years ago (N | ΛYA) | | 66 MYA | Now |
| | | | | | | | | | | |
| Hadeon Ar | | | Archean | | Proterozoic | | | Paleozoic | | |
| 4.6 BYA | 4.6 billion years ago (BYA) | | | | 2.5 BYA | | | | 521 MYA | |
| | | | | | | | | | | |

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