The Cretaceous Period

By
Doug and Claudia Mann

Illustrated by
David Cobb

Copyright © 2007 www.fossils-facts-and-finds.com
The Cretaceous Period: Flowers Bloom For The First Time

The Cretaceous (krī TAY shuhs) Period is the final period of the Mesozoic Era. It covered the time span of 144 million years to 65 million years ago. There was a minor extinction at the end of the Jurassic Period that is the sign of the beginning of the Cretaceous. Many of the species of bivalve mollusks (similar to clams) became extinct at this time.

<table>
<thead>
<tr>
<th>Mesozoic Era</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triassic</td>
</tr>
</tbody>
</table>
The Continents of the Cretaceous

The changes to the continents continued in the Cretaceous Period. Laurasia and Gondwana continued to move apart. On the eastern side of Laurasia, the North Atlantic Ocean was formed. It covered the east coast of North America and most of western Europe.

Dawning of the New Era

Even though so much of the life of the Cretaceous Period had been hurt or eliminated, the species that did survive were ready for the hard work ahead. The Cenozoic Era that follows is the time of the mammals. With the large reptiles out of the way, these small land animals were able to develop into many new and different species. It wouldn’t be long before the mammals would rule the earth.
Major Extinctions

The KT event caused the extinction of more than 70% of the species that lived in the oceans and 15% of the species on land. In fact, all land animal species over 50 pounds seem to have become extinct. Nearly all dinosaurs became extinct at this time. Modern birds, descendents of the dinosaurs, are all that remain of the animals that had ruled the planet for so many millions of years. In the seas, the ammonites and belemnites were wiped out along with large marine reptiles including the icthyosaurs, plesiosaurs, and mosasaurs.

The Break-Up of Gondwana

In Gondwana, South America and Africa broke apart. The ocean floor was spreading along a crack in the earth’s crust called a rift. This eventually led to the South Atlantic Ocean. Another rift on the eastern side of Africa caused a waterway between Africa and a body of land that contained modern Madagascar and India.
Rising Sea Levels

The rift between Africa and South America created a long chain of volcanic mountains underwater. These mountains grew as the Atlantic Ocean got wider. As these mountains grew they displaced a tremendous amount of water. So much, in fact, that the water level of the seas was about 100 meters higher than today. This caused many inland seas to form. In North America, an inland sea divided the continent across the plains of modern-day Canada and the United States all the way to the Arctic Ocean.

The KT Event

There seems to have been a major event that caused the mass extinction at the end of the Cretaceous Period. It is called the KT event: K for Cretaceous and T for Tertiary, the first period of the Cenozoic Era which follows. A popular theory is that a meteor hit the earth in the Gulf of Mexico off the Yucatan Peninsula. This caused many geologic activities. Volcanoes erupted. Clouds, smoke and dust covered the skies keeping the sun’s light away from the planet for years. This would have caused huge changes in the climate and vegetation.
Mammals Bide Their Time

Mammals continued to exist during the Cretaceous Period, but they were not very important. These early mammals were tiny creatures compared to the giant dinosaurs.

The new placental (pluh CĒN tuhl) mammals of the Cretaceous Period were an important evolution in mammal species. Babies of placental mammals grew inside their mother’s body until they were ready to be born. The infant mammal was fed through an organ called the placenta.

New Dinosaurs

Animal life continued to develop much as it had in the Jurassic. New species of dinosaurs became important. The ceratopsian (sār uh TŌP sē īn) dinosaurs appeared for the first time. These were plant-eating ornithischian, (ōr nī THĪ shē īn) or bird-hipped, dinosaurs.

The most famous example is the triceratops. (trī SĀR uh tŏps) It had three horns and a huge, bony frill that formed its skull.
Enter The King

The most famous dinosaur of all, the Tyrannosaurus Rex, finally came along during the Cretaceous Period. They ruled the land at the end of the Cretaceous Period. Tyrannosaurus Rex was a reptile-hipped dinosaur. Since theropods walked on two legs, T-Rex is a theropod.

Some paleontologists think that T-Rex was a hunter. Others think that he was so big that he could not run fast enough to be a hunter. Because of this, scientists think he ate animals that were already dead.

Flowers Are a Boon to the Insects

With the introduction of flowers came many new insects including butterflies, ants, termites and bees. While the flowering plants provided food for these insects, the insects made sure the pollen spread from flower to flower, producing the seeds that would become new plants.
Pterosaurs (TER uh sawrz)

The pterosaurs first appeared during the Triassic Period. They continued into the Cretaceous. Two of these pterosaurs reached gigantic size. The pterodon (TER uh dôn) had a wing span of 25 feet! Quetzalcoatlus (KĒT zuhl cō ĂT ĭl uhs) was even bigger. During the Cretaceous Period, the pterosaurs, as a group, began to die out. Only a few species survived until the end of the Cretaceous.
The Seas of the Cretaceous Period

Sea life was not very different in the Cretaceous Period than in the Jurassic Period. There was neither a major extinction nor a burst of new species. There were plenty of fish, mollusks, and arthropods to feed the giant sea reptiles, like plesiosaurs and mosasaurs, that still lived in the Cretaceous oceans. Crocodiles and turtles were common during the Mesozoic. The ichthyosaurs began to die out during the Cretaceous.

Nature Invents the Flower!

One of the most important developments of the Cretaceous Period was the growth of flowering plants. Before this, most of the trees had been gymnosperms or plants with cones. Now trees began to produce flowers. Seeds developed in the flowering part of these plants. The ancestors of many modern tree species appeared during the Cretaceous Period, including the magnolia and the maple.