

The DEVONIAN PERIOD

and

DUNKLEOSTEUS TERRELLI

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The Devonian Period (in the Paleozoic Era of geologic history) lasted from approximately 416 million years ago to 359 million years ago. It was named after Devon, England, where old red sandstone rocks from this period were first studied.

During this time, the earth consisted of just two continents. At the beginning of the Devonian, the European, Greenland and North American land masses had collided, pushing up the northern Appalachian Mountains, and forming the continent Euroamerica. The other continent, Gondwana, included present-day South America, Africa, Antarctica, India, and Australia. The two continents were close together and centered around the equator, and the rest of the earth was water.

It was during this period that plants developed vascular tissue to carry water and food through roots and leaves, and seed-bearing plants evolved. Both of these meant that plants could escape their watery environment and survive on land. Also, the Devonian Period is known as the "Age of Fishes", as fish were diversifying tremendously, and some developed lungs, enabling them even to crawl out of the water for short periods of time. Sharks as we know them today, and coelacanths, developed.

At this time Ohio was near the equator and covered with water. The lower waters were a soupy mud with no oxygen so nothing could live. The upper waters were clear and teemed with life, including our famous Rocky River fossil, Dunkleosteus terrelli. It was named in 1956 after Dr. David Dunkle, then Curator of Vertebrate Paleontology at the Cleveland Museum of Natural History.

The Devonian Period is divided into three parts, Lower Devonian, Middle Devonian, and Late Devonian (380 - 360 million years

ago). During the Late Devonian is when the fish Dunkleosteus developed. It had a jaw with two pairs of sharp bony plates which formed a beak-like structure, and gills and paired fins, but it still had bony scales and plates on the outside of its head and neck, leftover from earlier species that had been covered all over by bony plates. It was a huge predator. Soft tissue, such as the rest of its body, does not preserve as well in the fossil record as the bony head, but it was thought to be 20 feet or more in length, and weigh as much as two tons or more. At the end of the Devonian Period there was a mass extinction, reasons unknown, and thus the Dunkleosteus did not survive to this day. The Rocky River Nature Center displays a model of this ferocious-looking creature.

The Cleveland Shale visible in Rocky River Reservation is a result of pressure on the soupy mud, forming the rock. During geologic history, rocks shift up and down and tilt, and erosion occurs. In Ohio, outcroppings of Devonian rocks appear in an east-west band along Lake Erie between Sandusky and Ashtabula. Our Cleveland Shale is dark because of the carbon in it from the remains of the ancient organisms that drifted down there. The dark color also indicates the remains were deposited in water that had little oxygen, otherwise the carbon would have decayed.

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