## Basilosaurus the state fossil of Alabama

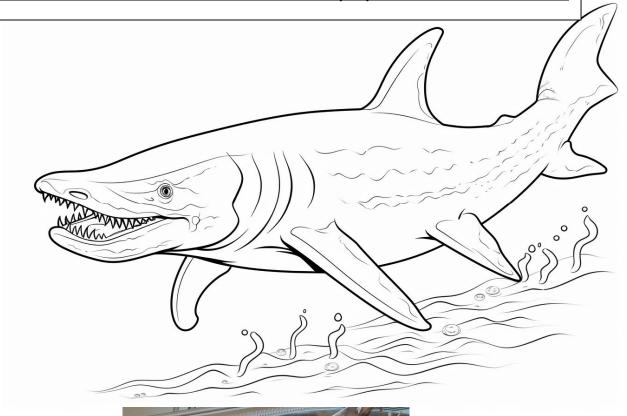
Examples of Basilosaurus fossils are on display at the

McWane Science Center in downtown Birmingham and

Alabama Museum of Natural History at the University of Alabama in Tuscaloosa.

But, the most impressive skeleton of a Basilosaurus is in the Smithsonian in Washington D.C. AND this skeleton, named for 2 communities in now Choctaw County where it was found, is called the

Melvin-Fail Basilosaurus. It has been displayed there since 1910.





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Natural historian Richard Harlan described the fossil in a brief report, published in 1834, in which he named the animal *Basilosaurus*, or "king lizard." Harlan received more *Basilosaurus* material from John G. Creagh, a judge in **Clarke County**, Alabama, in 1834. Harlan took teeth, jaws, and other bones to England in 1839, where they were examined by Richard Owen, a renowned professor of comparative anatomy at the Royal College of Surgeons. At the time, Owen was trying to determine which giant reptiles belonged in the group he termed Dinosauria. After examining Harlan's specimens, Owen concluded that *Basilosaurus* was a mammal, not a dinosaur or other reptile, because it had double-rooted teeth.

Basilosaurus cetoides In the mid-1890s, the Smithsonian Institution sent professional collector, and later Yale professor, Charles Schuchert to Choctaw County to collect Basilosaurus specimens for the U. S. National Museum of Natural History. He recovered the front part of one skeleton near Melvin and the back part of another near a community known as Fail, which were combined as an almost complete composite. The Fail partial skeleton included pelvic bones and part of an upper leg, which were interesting enough to be described separately by Smithsonian curator Frederic Lucas in 1900. The Melvin-Fail *Basilosaurus* skeleton has been exhibited at the Smithsonian since 1910. The Alabama species *Basilosaurus cetoides* has never been found outside North America, but the slightly smaller, closely related species Basilosaurus isis is known from many skeletons in Egypt. The Basilosaurus cetoides skeletons of Alabama all come from layers of rock that were formed at the bottom of a shallow Gulf Coast sea during the late Eocene. Smaller archaic whales such as Zygorhiza kochii and Cynthiacetus maxwelli inhabited this sea as well, but *Basilosaurus cetoides* was the largest and most spectacular. Rocks of the period that contain fossils of *Basilosaurus cetoides* belong to the Jackson Group, principally the Pachuta Marl and Shubuta Clay formations in the western part of Alabama, extending into Mississippi, and the Ocala Limestone formation farther east in Alabama, extending all the way to Florida. These formations form a band of outcrops that parallel the present Gulf Coast. Stratigraphic and paleontological evidence indicates that southern Alabama was coastal during the late Eocene, and accumulation of many *Basilosaurus* skeletons can be attributed to a favorable living environment and to the slow accumulation of sediment that covered the animals when they died, thus enhancing fossil formation.

*Basilosaurus* was a specialized type of animal that did not give rise to any later whales. Abrupt global cooling of the Earth's climate at the end of the Eocene coincided with changing ocean circulation. This led to the extinction of *Basilosaurus* and most archaic whales around 34 million years ago. At the same time, new currents and deep ocean upwelling favored the diversification of modern toothed and baleen whales.

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