

20. Is this dinosaur dung?

Possibly, but coprolites (the geological term for fossilized excrement of vertebrates, including dinosaur dung) are extremely rare. Most likely it's a concretion.

The "Glossary of Geology" (Jackson, 1997) defines coprolite as "the fossilized excrement of vertebrates such as fishes, reptiles, and mammals, . . . measuring up to 20 cm in length, characterized by an ovoid to elongate form, a surface marked by annular convolutions, and a brown or black color; commonly composed largely of calcium phosphate; petrified excrement." (Fig. 5.)

In many cases, natural concretions resemble coprolites. Concretions are unusually well-cemented masses of rock that may be spherical or disk-shaped or extremely irregular. Some can be as large as nine feet in diameter. They commonly form in sedimentary rock shortly after the sediment is deposited or as the sediment is lithified. Concretions have been mistakenly identified as coprolites and as fossils or meteorites.



Figure 5 (question 20). Photograph of probable reptile coprolites from the Morrison Formation (Jurassic), Cimarron County, Oklahoma. Scale bar = 1 centimeter. Specimen no. OMNH01032, Sam Noble Oklahoma Museum of Natural History. (Photograph by T. Wayne Furr, Oklahoma Geological Survey.)

21. What is the State Fossil of Oklahoma?

Saurophaganax maximus, a Jurassic-aged carnivorous dinosaur.

The State Fossil of Oklahoma is *Saurophaganax maximus* (Fig. 6). The only known skeletal remains of this carnivorous dinosaur were found about 70 years ago in the Morrison Formation (Jurassic) in Cimarron County. The living animal was about 40 feet long, weighed about two tons, and likely was as ferocious as *Tyrannosaurus rex*. The Sam Noble Oklahoma Museum of Natural History's website (Appendix 5) has a more complete description of the dinosaur.

Cub Scouts of Den 3, Pack 349, Edmond, are credited with suggesting that the State Legislature designate a State Fossil. Governor Frank Keating signed the enabling legislation on April 17, 2000.

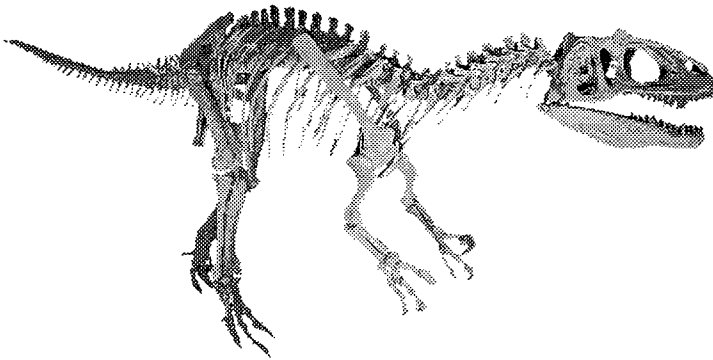


Figure 6 (question 21). Reconstructed skeleton of *Saurophaganax maximus*, the State Fossil of Oklahoma. The skull is 48 inches long. *Saurophaganax* is on display at the Sam Noble Oklahoma Museum of Natural History. (Image by Patrick Fisher, Sam Noble Oklahoma Museum of Natural History.)

22. Where can I buy fossils?

The Internet and rock-hound publications carry advertisements for fossil dealers; rock and mineral clubs may know about local shows and swap meets.

Largely because of the movie "Jurassic Park," dinosaur bones—and fossils, in general—have become extremely popular to collect, study, and own. Thousands of businesses sell fossils; they range from small rock shops to large companies that supply schools and museums across the country. The Internet is the best place to see the range of fossils available for sale; search under "fossils" or "fossils for sale."

Many popular rock-hound publications carry advertisements by fossil dealers, and they list shows and meetings where dealers exhibit and sell fossils. Two such publications are "Rock and Gem" and "Rocks and Minerals" (Appendix 5); they are available at many public libraries and bookstores.

Additional sources of information about fossil dealers are local rock and mineral clubs (Appendix 4). Many club members sell and trade fossils from their homes and at shows and at swap meets. The clubs also know about local shows where individuals can buy specimens. The OGS also lists nearby shows and swap meets on its website (Appendix 1).