



ISOTELUS: OHIO'S STATE FOSSIL

On June 20, 1985, Ohio House Bill 145 designated the trilobite genus *Isotelus* as the official state invertebrate fossil of Ohio. With the signing of this bill, *Isotelus* joined Ohio's other official state symbols, which include the ladybug (insect), red carnation (flower), flint (gemstone), cardinal (bird), white-tail deer (animal), tomato juice (beverage), and of course, the state tree, the buckeye.

HOW ISOTELUS WAS CHOSEN AS THE STATE FOSSIL OF OHIO

Ohio has long been known worldwide for the abundant and well-preserved fossils collected throughout the state. Individuals involved in geologically related activities in Ohio, either as professionals or hobbyists, had long thought that Ohio should have an official state fossil. This idea finally became a reality largely through the efforts of two Dayton, Ohio, area elementary school classes, Doris Swabb's third graders at Beavertown School in Kettering and Virginia Evers' fourth graders at St. Anthony School in Dayton.

After visiting the Dayton Museum of Natural History (now known as the Boonschoft Museum of Discovery) and viewing a cast of the famous Huffman Dam specimen of *Isotelus*, the students and teachers came up with the idea of trying to have the Huffman Dam trilobite designated as the official state fossil of Ohio. The students wrote letters to Representatives Robert L. Corbin and Robert E. Hickey of Dayton, who agreed to sponsor legislation in the Ohio House of Representatives to make the Huffman Dam *Isotelus* the official state fossil. Senator Charles Horn of Dayton agreed to do the same in the Ohio Senate.

The proposal for a state fossil received widespread publicity in newspapers and on television. Support for the idea came from various geologic interest groups throughout the state. Rather than naming only one specimen as the state fossil, the bill, which was drafted with technical assistance from the Division of Geological Survey, actually designated the trilobite genus *Isotelus* as the official state invertebrate fossil. Ultimately, the bill passed both the Ohio House of Representatives and the Ohio Senate with little opposition.

Isotelus is a most suitable selection for the state fossil. Not only are specimens of this trilobite, or at least fragments, moderately abundant in the rocks exposed in southwestern Ohio, but they are represented by the Huffman Dam specimen, which is one of the largest complete trilobites ever collected.

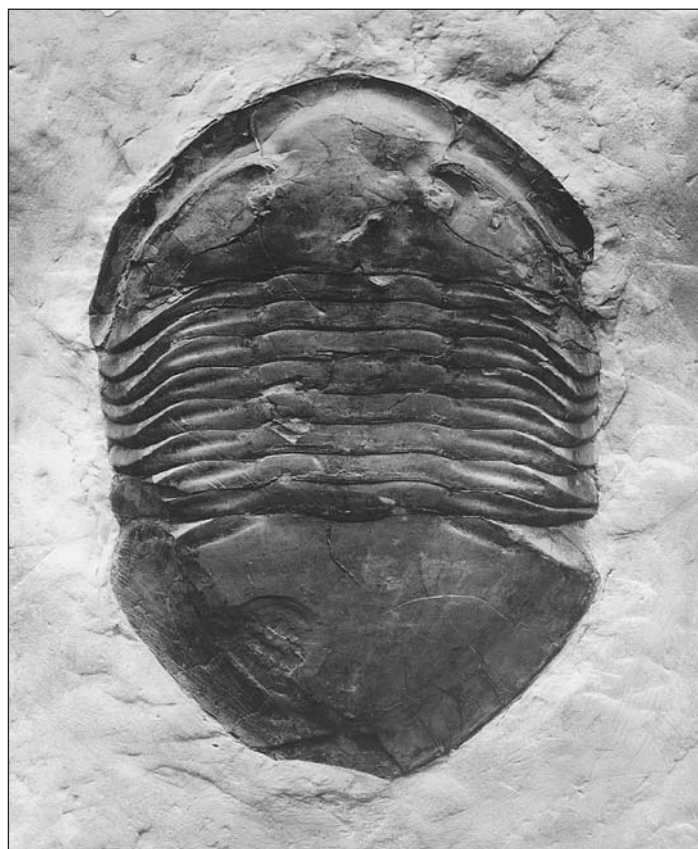
WHAT IS A TRILOBITE?

Trilobites are an extinct class of the Phylum Arthropoda, which includes among its living members the horseshoe crab, crabs, lobsters, shrimp, scorpions, spiders, and insects. Trilobites first appeared in the fossil record about 542 million years ago and became extinct about 251 million years ago. Trilobites lived in marine environments, where they burrowed in sediment, crawled along the sea floor, or were free swimming. Most trilobites ate mud from the sea floor, whereas others filtered food directly from the water, scavenged, or were predators. They grew by periodically molting their exoskeleton, a hard, outer shell similar in composition to fingernails. Thus, one trilobite could leave behind numerous fossil fragments representing shed exoskeletons. For defense against predators, some trilobites had sharp spines on their exoskeletons, and all had the ability to enroll, much like

the pill bug or armadillo of today, thereby enclosing their legs and softer underside within their hard outer exoskeleton.

ISOTELUS AND ITS HISTORY IN OHIO

Isotelus has had a long and illustrious history in Ohio, in terms of both geologic time and scientific study. *Isotelus* is known from rocks of Ordovician age, about 488 to 443 million years ago. In southwestern Ohio, only rocks of Late Ordovician age (455 to 443 million years ago) are exposed. These rocks consist of about 820 feet of comparatively thin, alternating layers of limestones and shales. These beds were deposited as limy mud and clay on the floor of a warm, shallow, tropical sea that covered Ohio during the Ordovician.



Specimen of *Isotelus* collected from Huffman Dam, near Dayton, in 1919.

The first serious study of Ohio's Ordovician rocks was undertaken by the first Geological Survey of Ohio in 1837-1838. At this time John Locke mapped portions of the southwestern corner of the state. Among Locke's many discoveries were partial remains of a large specimen of *Isotelus*. Because of its size, Locke named the trilobite *Isotelus maximus*. He later changed the name to *Isotelus megistos*, but today *I. maximus* is the accepted species name. Locke collected only the pygidium (tail) of the trilobite but, by proportional comparison, he estimated that the complete trilobite would have been about 21 inches in length.



Outcrop area of Ordovician rocks in Ohio.

Perhaps the most famous *Isotelus* specimen was discovered in 1919 by workmen digging an outlet tunnel during the construction of the Huffman Dam on the Mad River northeast of Dayton. This giant specimen of *Isotelus* measures 14½ inches long by 10¼ inches wide. Through the efforts of Arthur E. Morgan, chief engineer of the Miami Conservancy District, the trilobite came into the hands of August F. Foerste, a Dayton area high school teacher and one of Ohio's most renowned and prolific paleontologists. Foerste's research association with the National Museum of Natural History (the Smithsonian Institution) in Washington, D.C., resulted in the specimen being transferred to that institution for permanent display. The Huffman Dam trilobite still occupies a prominent position in the paleontological exhibits at the Smithsonian and is still one of the largest, complete trilobites of any kind ever collected.

FURTHER READING

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• This GeoFacts compiled by Douglas L. Shrake • Revised May 2005 •

The Ohio Division of Geological Survey has *Isotelus* commemorative items for sale:

Isotelus paperweight. Brass finish, approximately 3 inches long. \$5.00.

Isotelus postcard. Full-color photograph, 4¼ x 6 inches. 25 cents.

Fossils of Ohio poster. Collage of eight photos, including *Isotelus*. 18 x 24 inches, color. \$1.00.

Contact the Geologic Records Center of the Survey at 614-265-6576 for ordering information.



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