Fossil Fish Nodules

TMM 30962-13, TMM 30962-12

Hoplopteryx lewisiensis, Dapedium sp.

Lived around 65 to 93 million years ago

Found in Lamar County, Texas

Fish are often preserved as fossils in nodules of hard stone. Can you see the red stain all around the small skeletons? This indicates a deposit of iron compounds in the few inches surrounding the fish. This was formed through a chemical process after the fish died and sank to the bottom of the ocean. As the carcass decayed, the chemical environment of the surrounding sediments became acidified, leading to the deposition of iron.

Because iron is an especially strong "glue," a relatively large number of fish fossils have survived and been discovered. This extensive fossil record gives us a good knowledge of fish evolution. The small fish are called *Hoplopteryx*, an extinct relative of present-day perch and perch-like fishes. Perch-like fishes make up one of the largest and most diverse groups of modern fishes, with nearly 8000 living species. *Hoplopteryx* fossils have been found in the rocks of North America, Europe, North Africa, and Southwest Asia. *Dapedium* fossils have been found in Europe. They lived about 144 to 206 million years ago.

An Inordinate Fondness for Beetles

On loan from the private collection of John C. Abbott, TMM Research Associate

The beetles in front largely represent the single family Scarabaeidae, the scarabs. Humans have been fascinated by scarabs throughout history. As early as 2000 B.C., the Egyptians worshiped “sacred” scarabs. Charles Darwin noted the tremendous diversity of beetles around him while developing his theory of natural selection.

Beetles are insects that belong to the scientific Order Coleoptera. They live in many different habitats, from tropical rain forests to the polar ice caps. They consume everything from plants to animals, including their remains. Some species are generalists and live in a variety of habitats, while others live only in extremely specific environments. For 240 million years beetles have been evolving into the marvelous colors and forms that we see today.

British scientist J.B.S. Haldane was once asked by theologians what he might infer about God from all of “creation.” Haldane is said to have responded that He must have had "*...an inordinate fondness for beetles.*" We don’t know exactly how many beetles there are on Earth. But more than 350,000 species have been described to date. They are the most diverse group of animals—one quarter of all animals on Earth are beetles.