

Triassic Fish Found in West

Six new kinds of fossil fishes have been discovered in ancient water deposits in Colorado, Utah, and Texas.

Dr. Bobb Schaeffer, a scientist from The American Museum of Natural History, has collected several hundred specimens of fishes that lived about 200 million years ago during the last part of the Triassic period.

The Colorado and Utah specimens represent the largest single collection ever found in a series of sedimentary rocks called the Chinle formation. The Texas specimens are among the finest examples from a rock unit of the same age, the Dockum formation.

In addition to the six new genera, the remains of two previously known genera were found. Only one of these ancient fishes, the coelacanth, has a living relative—the Latimeria, found in 1939 living in the Indian Ocean.

Dr. Schaeffer, who has just completed a paper on the fishes, collected the specimens between 1954 and 1964.

He was alerted to the presence of the fish beds by geologists who were investigating the distribution of uranium ores in the Colorado Plateau. The beds are located in remote areas in Dolores Canyon near Bedrock, Colo., and in Big Indian Valley, Utah.

The Texas fossils come from a deposit near Big Spring in Howard County.

During the Upper Triassic period, the areas where the fossils were found were part of a lowland flood plain with streams and ponds. The climate was semitropical with alternating wet and dry seasons. Many of the fishes were concentrated in drying streams and ponds.

At one locality in Big Indian Valley, the underside of a rock overhang was covered with 25 to 35 fish per square foot, Dr. Schaeffer reported.

Dr. Schaeffer described his fishes as rather small, with characters that suggest most of them were browsers or grubbers. The only large fish is a coelacanth, which probably reached a length

of three feet. The back cover shows a specimen of Semionotus about four inches long.

The most exotic member of this ancient assembly is a deep-bodied creature that has scales only on the front of its body. The absence of scales on the posterior portion probably increased flexibility of this area and provided greater forward thrust.

A characteristic shared by some of these primitive fishes is a bony snout covered with tubercles. One well-preserved skull from Texas shows the pointed tubercles particularly clearly. The tubercles may have been embedded in a fleshy upper lip, Dr. Schaeffer said.

The fish are in all stages of preservation ranging from the actual bone to impressions in the rock. Some are complete skeletons but others are represented by isolated skull parts, scales or fins. Almost all of the specimens were compressed by the weight of the overlying sediments.

In comparing these fishes to Upper Triassic specimens from the northeastern United States some 1,700 miles away, Dr. Schaeffer found that two of the genera are identical, while several others are closely related.

Originally, Triassic seas covered land areas in what is now the eastern United States, as well as in the Arctic islands of Canada, and certain portions of northern and eastern Greenland. Continental deposits are known from Florida to Nova Scotia. However, the seas retreated from the eastern United States at the end of the Lower Triassic era, and through the Middle and Upper Triassic periods were confined to the western quarter of the continent.

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