

Chapter 1

Fossil Bones

Mary Anning lived near the seashore in England more than a hundred fifty years ago. She and her father spent their summers walking along the beach gathering shells to sell. Many people took their vacations at this seashore in southern England. These visitors eagerly bought seashells collected from the beach. The most prized shells were the old, old ones from the rocky cliffs along the shore.

One morning Mary was walking along with her bucket in her hand, searching the high cliffs for unbroken shells. She saw, almost out of reach, what looked like a large white shell sticking out of the crumbling rock.

Setting down her bucket she began to dig with her pick. But try as she would, the “shell” would not come loose.

“Father,” she called. “Can you come and help me? I think I’ve found a really big shell.”

Her father came and together they worked, but they soon discovered that what Mary had found was the end of a bone. They began to look along the cliff. Here and there they saw the ends of other bones.

“Looks like parts of a skeleton.” Mary’s father stepped back for a better look. “What animal was buried here? A great fish?”

Mary chipped away at the rock to loosen the bones. Some were so high she couldn’t reach them.

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“Come, Mary,” her father called. “Let’s get on with our shell gathering. There are many good shells you can reach.”

Mary went back to the work of hunting shells, but she kept looking at the pieces of bones in the cliff. She told her friends in the village, and many came to look. Some of the men agreed to help her dig out the bones.

They also were curious to know what kind of bones Mary had found. They decided it was easier to cut out blocks of stone and take them to Mary’s house. There the bones could be dug out.

Mary worked all winter on the rocks. Almost everyone in the village came to the Anning home to look at the strange bones and to wonder what animal they came from. They were excited by the idea that long ago huge monsters lived on the earth. Did this one live on land or in the sea?

A wealthy gentleman who came from London for a vacation at the seashore heard of the bones in the rocks. He came to see them.

“I would like to buy the fossils,” he told Mary.

“Fossils?” The word was new to Mary and to the others in the village.

“Yes. Bones dug out of the rock, like these, are called fossils. The name comes from a Latin word that means ‘dug out.’ “

The gentleman took the bones and the blocks of stone back to London. He carefully cleaned the rock and dirt away from the bones. After many weeks he had the whole skeleton spread out the way it had been in the cliff. He drew pictures of what he thought the animal must have looked like. One of these a newspaper printed. He wrote about the skeleton and

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said that it belonged to an animal something like a fish. He said the leg bones were shaped like paddles. They could not have been like fish fins. The great skeleton stretched out for thirty feet. And the animal had a long jaw full of sharp teeth.

Scientists came from different parts of Europe and England to see this fossil animal. "It is a fish," some said.

"No," others said. "It cannot be a fish with those paddle legs. It must be some kind of reptile. Maybe something like an alligator or big lizard."

A scientist named George Cuvier came from France. He had been studying fossil bones in Europe, and he knew much about them. He studied the skeleton Mary had found. From the arrangement of the bones in its head, Cuvier decided the animal had been a reptile. "It must have looked like a fish," he said. "But it was a reptile. The skeleton is more like that of a lizard than anything else. This sea lizard could not have crawled or walked on land because its legs were paddles."

The fossil skeleton was put in the British Museum. The men there thought it should have a name. "Why not call it *Ichthyosaurus* (ik-theo-sor-us)?" one of the men said. "We'll be using two Greek words: 'ichthys' which means 'fish,' and 'saurus' which means 'lizard.' The fish lizard."

Everyone agreed to this name for the ancient animal. The animal was named and is still called an ichthyosaur. Most people call it the "fish lizard."

During the years that followed, more ichthyosaurs were found in the same sea cliffs. In Germany people found many of this kind of lizard.

Mary Anning kept on hunting fossils for the rest of her life. She opened a fossil shop, and people came from all over

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the world to buy her fossils. An American bought an ichthyosaur skeleton and shipped it to the United States. Because a thirty-foot skeleton is not something he could keep in his living room, he gave it to the Academy of Natural Science in Philadelphia. Since then millions of people have come to see this strange animal from long ago.

Ichthyosaurus

This drawing shows what an ichthyosaur looked like. Most of the skeletons found are smaller than the one Mary Anning discovered. Some skeletons were only ten or fifteen feet long.

Each ichthyosaur had a sail-shaped fin on its back, four legs shaped like paddles, and a sharply pointed head with long slim jaws. Its large round eyes may have helped it catch fish in dark water. It was shaped something like a shark or porpoise so that it could slip easily through the water.

The ichthyosaur could have laid eggs, but scientists feel sure that the mother ichthyosaur kept the eggs inside her body until they hatched. Her babies were born alive.

Why do the scientists think this? The American Museum of Natural History in New York has an ichthyosaur skeleton from Germany that shows something interesting. The bones of this skeleton still lie in the rock where they were found. In the body of the ichthyosaur are several skeletons of baby ichthyosaurs. The bones of these baby dinosaurs (ichthyosaurs are a kind of dinosaur) are well developed, and their paddle legs are well formed. They would have been able to swim as soon as they were born.

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Someone found another wonderful skeleton of an ichthyosaur in a slate quarry also in Germany. The outline of the body flesh plainly shows in the rock. Specimens like these two show scientists what the animal really looked like.