



# The Adventures of Pixel, the Stowaway



## The Girl Who Discovered Sea Monsters

"Hi, Everybody. Pixel, the Stowaway, here, and do I have an adventure for you! My friend Al and his family, recently traveled to England and Scotland. As always, I stowed away in his camera! Al took so many pictures I was almost bumped out of his camera – no room for me! Let me tell you about one adventure we had when Al and I went to the British Museum of Natural History in London. We found sea monsters – real ones – and learned the story of the girl who discovered them. She liked observing things, just like me.

The girl was Mary Anning, and she was born in the year 1800 in the English seaside. Her father was a carpenter, and the family didn't have much money. Mary, her father, and her older brother liked to use their Nature Smarts. They beach-combed and walked the cliff tops of a town called Lyme Regis picking up interesting things. They had a small shop and sold their treasures to tourists as curiosities, sea shells, snake stones, and devils' toenails – different names for what we know today are fossils.

Al told me that two hundred million years ago, the Earth was a very different place. The continents were not where they are today, and the oceans were very different with many strange and wonderful creatures living and swimming in the warm shallow seas. (Did you know that the continents move? They do, very slowly—about as fast as your fingernails grow.) The oceans teemed with schools of squids carrying shells, both coiled and straight, called ammonites (am'-mo-nites). When they died and sank to the bottom of the shallow ocean, their shells became fossils.



Courtesy of Al Giraldi

Mary's customers called the coiled shells snake stones and the straight ones devils' toenails.

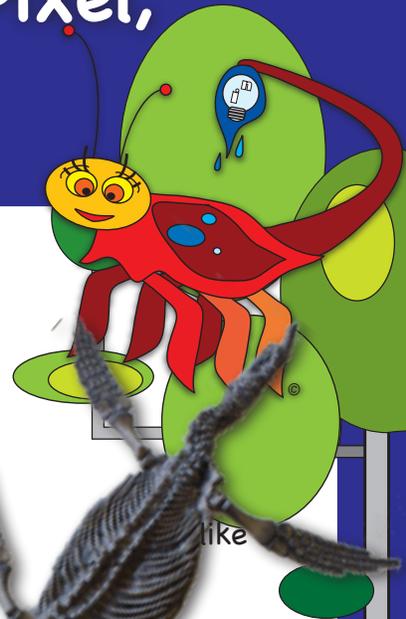


Mary's father died when she was only 11. The family became so poor they even had to sell their furniture. Mary and her brother kept beach-combing and selling their treasures to tourists. It was nearly the only money the family had. One day, Mary and her brother discovered what appeared to be the three-foot long skull of a crocodile sticking out of the cliff. Mary got some adults to help. Together they dug out the block of stone holding the fossil. The fossil was nearly as long as a bus and full of strange bones. Mary sold her discovery to a collector who gave it to the British Museum. Mary had found a

Mary Anning, Ichthyosaur at Lyme Regis Cliffs  
Courtesy of Al Giraldi & Wikipedia

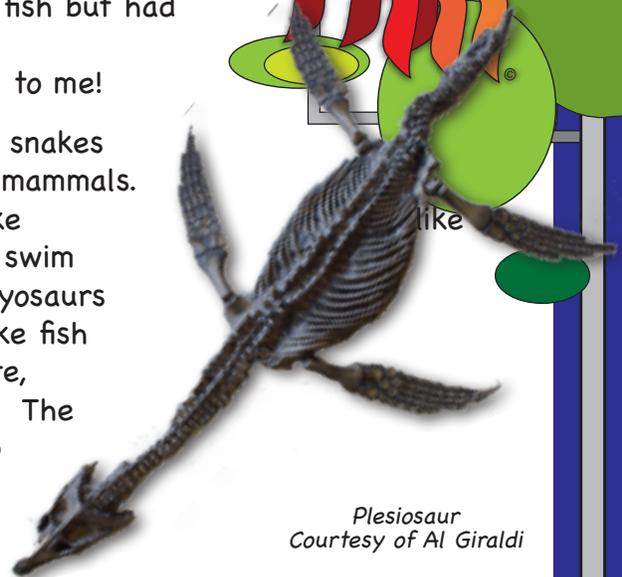


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puzzle that took almost 50 years to solve. Scientists at the museum didn't know what the fossil was since it was shaped like a fish but had the skeleton of a reptile. They named it Ichthyosaurus (ich'-thy-o-saur-us) which means fish-lizard – sounds icky to me!

Ichthyosaurs were reptiles and are related to present day snakes and lizards, but they were shaped like dolphins which are mammals. Ichthyosaurs breathed air and gave birth to live young, like dolphins today. There were differences, though. Dolphins swim by moving their horizontal tail fins up and down, but ichthyosaurs swam by moving their vertical tail fins from side to side like fish do. At night or in deep water where light doesn't penetrate, dolphins make sound waves called sonar to find their food. The sound waves bounce off objects and are reflected back to the dolphin who can tell what the object is, where it is, and how fast it is swimming. Ichthyosaurs, as far as scientists can tell, didn't have sonar. Instead, they had enormous eyes to gather every bit of dim light. Dinosaurs ruled the land in the Jurassic Age, but giant reptiles (not dinosaurs, but their relatives) swam the oceans.



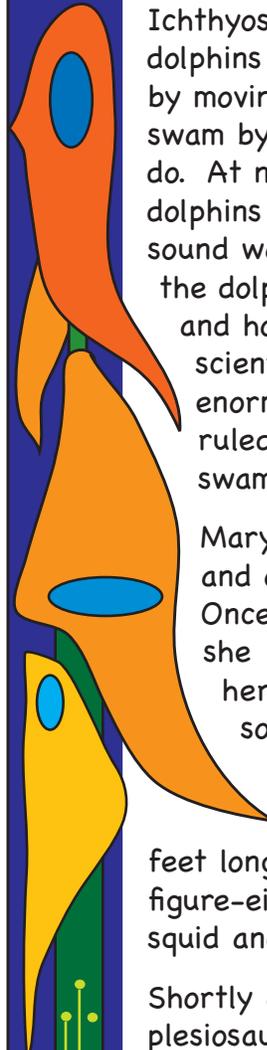
*Plesiosaur  
Courtesy of Al Giraldo*

Mary studied on her own and soon became an expert in finding fossils. Even in storms and other dangerous conditions, she searched for fossils that had eroded out of the cliffs. Once she narrowly missed being hit by a stone falling from the cliff, and another time she was almost trapped against the cliff by a high tide. Wish I had been there to see her carefully lift the fossils out of the cliff. Mary sold the fossils which were the only source of income for her family.

Mary made another major discovery when she was just out of her teens. She found the first plesiosaur (ple'-si-o-saur). This was another ocean-going reptile, about nine feet long with a long neck and four flippers. Plesiosaurs swam by moving their flippers in a figure-eight, sort of a mixture of swimming and flying. Plesiosaurs hunted the same sort of squid and fish as the ichthyosaurs.

Shortly after that, Mary found the first pliosaur (pli'-o-saur). They were similar to plesiosaurs, but they were much bigger with big teeth in huge heads on shorter necks. Some people say a pliosaur was the Tyrannosaurus rex of the oceans. Pliosaurs hunted ichthyosaurs.

As Mary's discoveries were made public, her fame grew among scientists. Sir Richard Owen, the scientist who invented the term dinosaur, spent his vacations beach-combing with Mary





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and her dog. As she became more famous, she sold more and more important fossils to collectors and others.

Mary died when she was in her forties. In her lifetime, fossils and the ancient world they came from became well known to science. Even today, over 200 years after her birth, scientists still study and learn from the fossils she found in Lyme Regis.

Even though you probably never heard of Mary's name before, you probably have heard all about her. You see, the tongue-twister, *She sells seashells by the seashore*, is all about Mary!"

Mary used her Nature Smarts to earn money to help her family.  
If your family needed help, what could you do to earn money?

