

The Wilson Art Gallery & Museum Information Sheet



Jurassic Geology: The Ichthyosaur

Jurassic Cheltenham

Millions of years ago when the dinosaurs roamed the earth, the world would have looked very different and unrecognisable to modern eyes. Not only would there have been animals and plants that would look strange to us, but even the shape of the continents were different. So different was this world that for much of the Jurassic period Cheltenham was submerged under a warm shallow sea. This explains why the fossil record in the Gloucestershire area is dominated with the remains of marine reptiles, like the ichthyosaur and various forms of shellfish such as ammonites and belemnites.



Two ammonite fossils, a favourite food of ichthyosaurs

The Ichthyosaur

The name ichthyosaur literally means 'fish lizard' deriving from the Greek words *ichthys* meaning fish and *sauros* meaning lizard. Ichthyosaurs inhabited the world's oceans at the same time that dinosaurs walked the earth, from the early Triassic to the late Cretaceous (280–90 million years ago) and were particularly prevalent in the Jurassic (208–146 million years ago). Jurassic fossils have preserved well in Gloucestershire so creatures from this time are represented well in collections held by The Wilson.



An ichthyosaur skull, note the long jaws full of sharp teeth used to break down shellfish

There are a number of different species of ichthyosaur and they ranged from one metre long to over 7.6 metres (25ft). From a human point of view the larger species were a fearful creature to be in the water with. In all their variations ichthyosaurs were predators. The smaller species ate ancient shellfish such as ammonites or belemnites, larger species could hunt bigger fish. They had long jaws packed with teeth. These teeth had to be sharp and strong for cutting through the shells of the crustaceans they caught and for crunching the

bones of the fish they had killed. The ichthyosaur ranked somewhere in the middle of the food chain as there were still bigger hunters than them in the ocean such as plesiosaurs.

As a consequence of their sharp teeth and predatory nature, ichthyosaurs have often been referred to as a sea dragon. Despite this ichthyosaurs do have striking similarities to an animal that we are much more familiar with today: the dolphin. From looking at both the fossils and subsequent reconstructions you can see a distinct similarity in their shape as they are both streamlined effective, swimmers. Evidence suggests that the ichthyosaur could reach speeds of 15 mph in the water. The ichthyosaur had no gills therefore it had to come to the surface regularly to breathe. Therefore the sight of these creatures poking their heads out of the sea or even jumping from the waves could have been a common sight in Jurassic Gloucestershire.

Whilst the ichthyosaur lived during the age of the dinosaurs it isn't a dinosaur, it is a marine reptile. A number of marine reptiles dominated the sea at this time, such as the plesiosaur and mosasaur however they shared the same fate as the dinosaurs and died out by the mass extinction 65 million years ago.



A plaster cast of a complete ichthyosaur skeleton

In the collection we hold a number of fossils from ichthyosaurs, including a skull, a paddle, (a type of flipper) and a variety of vertebrae. These fossils were recovered from various locations in Gloucestershire, and are representative of a number of specimens rather than constituting one singular individual. The Wilson does, however, hold a plaster cast of a whole ichthyosaur in the collections. This cast, as pictured here, is currently on display in the archaeology galleries and is the cast of an original specimen given to Bristol City Museum. Unfortunately however the real fossil was destroyed in an air raid during the Bristol Blitz in 1940, so this cast and a few copies dotted around the country are the only remnants of this individual ichthyosaur.

To find out more about the collections held by the museum contact:
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