

Sea Life Sharks Help Scientists Probe Mysteries of Ancient Seas

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Sea Life Centre sharks are set to help University of Birmingham scientists unravel the mysteries of ancient seas. That will be the goal of a major research project announced as the centres prepare to host special Shark Weeks in October, to promote shark conservation.

Clues to marine biological diversity over millions of years may be locked up in sharks' teeth, researchers believe. Oxygen isotopes which are incorporated into sharks' teeth as they develop can reveal the temperature of the seawater the shark lived in at the time.

Now a research team led by [Dr Ivan Sansom \(/staff/profiles/gees/sansom-ivan.aspx\)](/staff/profiles/gees/sansom-ivan.aspx), a Senior Lecturer in Palaeobiology at the University of Birmingham, hopes Sea Life centre sharks will establish whether this applies to all shark teeth or just certain species.

"That will validate the study of age-old fossil shark teeth as a technique to learn more about sea conditions in prehistoric times," he said.

"Other work in the field has suggested that cooling waters were a factor in driving major evolutionary changes whilst warming waters led to extinctions.

"With the current evidence for warming oceans the evidence from the past suggests we are going to see a major extinction in our oceans.

"Reconstructing past climate systems using evidence such as that we hope to find in shark teeth may help us understand what happened in the past, and what may happen in the future."

The initial research (funded by the EU's Marie Curie Fellowship scheme) involving teeth collected from the bed of Sea Life centre ocean tanks will take two years to complete.

Centres across Europe will collect discarded shark teeth from the beds of their ocean tanks and send them to Birmingham along with regular water samples from their shark tanks.

The Birmingham-based research may ultimately provide more clues as to what caused the extinction of major marine predators such as the Megalodon, a 60 foot long shark that suddenly disappeared after a 14-million year reign at the top of the ocean food chain.

Fossil remains show that it was once found almost worldwide, yet it vanished forever about 1.6 million years ago, and no-one really knows why although a cooling of the world's oceans has been cited as one possible cause.

Dr Sansom added that the work with shark teeth might later be extended to include studying deposits in the ear-bones of a wide range of fish, which can also reveal details of water chemistry.

While Dr Sansom's work could help in forecasting climatic impact on the oceans, the planned Shark Weeks will focus more on man's impact and in particular on the world's shark species.

Between 70 and 100 million sharks are killed annually as by-catch or to provide fins for shark fin soup. Many species are already teetering on the brink of oblivion, and Shark Weeks will feature a host of activities highlighting their plight and seeking to persuade visitors of the need to protect rather than persecute sharks.

Ends

Notes to Editors

SEA LIFE Centres are the world's biggest aquarium chain. There are 35 centres in all in 13 different countries in the UK, Europe and North America. They are owned and operated by the UK-based Merlin Entertainments Group, the world's second largest attractions company which also owns iconic attractions such as Madame Tussauds, Alton Towers, the LEGOLAND parks, the London Dungeon and Gardaland in Italy. SEA LIFE Centres open a window into the magical world beneath our seas with displays housing everything from shrimps and starfish to seahorses, rays and sharks. The network also campaigns actively on a variety of marine conservation issues from shark-finning and whaling to sea turtle protection.

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For further information
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Sansom with shark tooth

Dr
Ivan