



## Overview & Credits

National Geographic's giant-screen film ***Sea Monsters: A Prehistoric Adventure*** brings to life the extraordinary marine reptiles of the dinosaur age in both 3-D and 2-D. Eighty million years ago, the American Midwest lay under a great inland sea where colossal creatures ruled the waves. From giraffe-necked *Styxosaurus* and sea birds with teeth to the *T-Rex* of the ocean — the 40-foot super-predator *Tylosaurus* — these wondrous beasts defy imagination. In a remarkable journey, National Geographic immerses audiences in this unexplored world of the “other dinosaurs,” delivering the fascinating science behind what we know and a vision of history's grandest ocean creatures brought to life on the world's biggest screen.

**LOGLINE:** Meet the *T-Rex* of the ocean on the giant screen in IMAX<sup>®</sup>, IMAX 3D and other specialty theaters as National Geographic's ***Sea Monsters: A Prehistoric Adventure*** brings to life the colossal marine reptiles of the dinosaur age.

**NARRATOR:** Liev Schreiber

**EXECUTIVE PRODUCER:** Timothy Kelly

**DIRECTOR:** Sean Phillips

**PRODUCERS:** Lisa Truitt, Jini Dürr

**EXECUTIVE MUSIC PRODUCER:** Peter Gabriel

**ORIGINAL SCORE:** Richard Evans, David Rhodes and Peter Gabriel

**ASSOCIATE PRODUCER:** Erica Meehan

**EDITOR:** Jonathan Shaw

**WRITER:** Mose Richards

**DIRECTOR OF PHOTOGRAPHY:** T.C. Christensen

**FILM CONSULTANTS:** Kenneth Carpenter, Michael Everhart, Glenn Storrs

**LENGTH:** 40 minutes

**FORMATS:** 15/70 - 8/70

**DISTRIBUTION:** National Geographic Giant Screen Distribution

**FOR MORE INFORMATION:** [www.nationalgeographic.com/seamonsters](http://www.nationalgeographic.com/seamonsters)

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### **MEDIA CONTACTS:**

Mimi Koumanelis  
National Geographic  
(202) 857-5814  
[mkoumane@ngs.org](mailto:mkoumane@ngs.org)

Eileen Campion  
Dera, Roslan & Campion Public Relations  
(212) 966-4600  
[eileen@drcpublicrelations.com](mailto:eileen@drcpublicrelations.com)



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## The Experts

### **Kenneth Carpenter**

A world-renowned expert on Early Cretaceous dinosaurs, armored dinosaurs and dinosaur reproduction, Kenneth Carpenter heads the fossil preparation laboratory at the Denver Museum of Nature & Science and serves as curator of vertebrate paleontology. As part of his Ph.D., Carpenter researched predator-prey relations among the fish and marine reptiles of the period as well as factors that may have influenced the fossil record of the seaway. Much of his studies on plesiosaur locomotion are reflected in the flipper motion of the creatures seen in the film. He has published seven books and authored more than 200 popular and scientific articles on topics including fossil preparation techniques, mounting of fossil skeletons, and dinosaur taxonomy, behavior and diseases. His present focus is on the dinosaur faunas of the Lower Cretaceous.

### **Michael Everhart**

Michael Everhart, author of the 2005 book "Oceans of Kansas" and more than 20 scientific articles about Kansas fossils, is one of the world's foremost authorities on the Western Interior Sea that divided North America in two during the Cretaceous Era. He has collected fossils in western Kansas for more than 30 years, and what was once a hobby, practiced on the side during his early career in environmental management for government and private industry, became his full-time calling after retirement. He is a past president of the Kansas Academy of Science and current editor of the organization's journal "Transactions," one of the oldest scientific journals in the United States. Everhart's primary interest is marine reptiles, especially mosasaurs and plesiosaurs, and he has served as adjunct curator of paleontology at the Sternberg Museum of Natural History in Hays, Kan., since 1998.

### **Glenn Storrs**

Paleontologist Glenn Storrs specializes in the anatomy, evolution and systematics of fossil marine reptiles, particularly plesiosaurs and their relatives. Through detailed study of their morphology, he works to elucidate the evolutionary relationships of these amazing creatures that populated the seas during the age of dinosaurs. Storrs shares his passion teaching geology at the University of Cincinnati, and serves as both assistant vice president for natural history and science and curator of vertebrate paleontology at the Cincinnati Museum Center. He has authored more than 50 articles and scientific book contributions, and has active field projects around the country, including fossil excavations in Ohio, Kentucky, Montana, Utah and Wyoming.

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7/07



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# SEA MONSTERS

A PREHISTORIC ADVENTURE

## Cast of Creatures

### Starring:

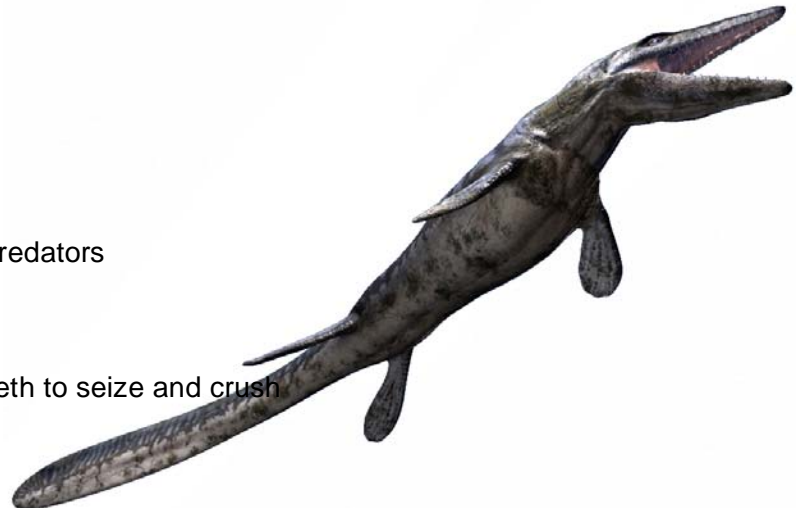


### ***Dolichorhynchops***

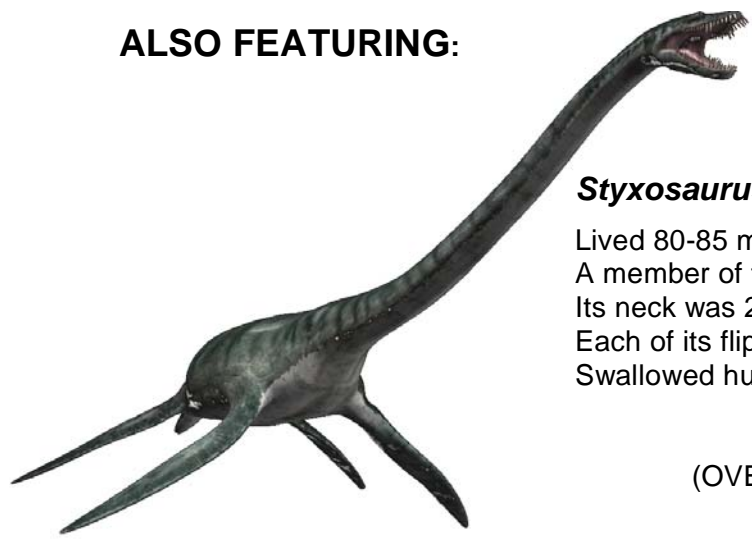
Lived 80-90 million years ago  
Name means “long snout”  
Approximately the size of a dolphin  
Fast swimmer that fed on fish and squid  
Had no external ears, making it possibly deaf to air-borne sounds

### ***Tylosaurus***

Lived 73-80 million years ago  
One of the largest mosasaurs  
Among the largest and most ferocious predators of any era  
Grew to between 35 and 45 feet long  
Eyes were as big as grapefruit  
Had four rows of sharp, cone-shaped teeth to seize and crush prey, and could swallow prey whole



### **ALSO FEATURING:**



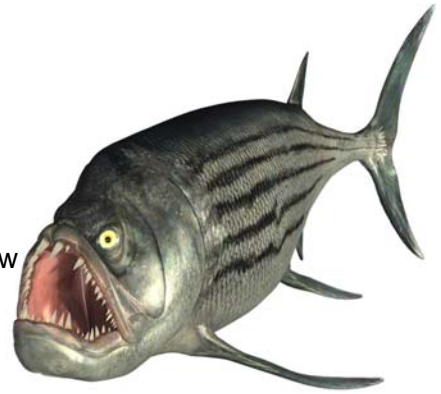
### ***Styxosaurus***

Lived 80-85 million years ago  
A member of the plesiosaurs  
Its neck was 20 feet long — up to half its body length  
Each of its flippers was the size of an adult human  
Swallowed hundreds of small rocks to help grind up meals

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### ***Xiphactinus***

Lived 70-95 million years ago  
Largest bony fish of Late Cretaceous, reaching 20 feet long  
Nicknamed the “bulldog” fish because of upwards thrust of jaw  
Able to swallow prey up to half its length  
Often fed on a 6-foot fish called a *Gillicus*

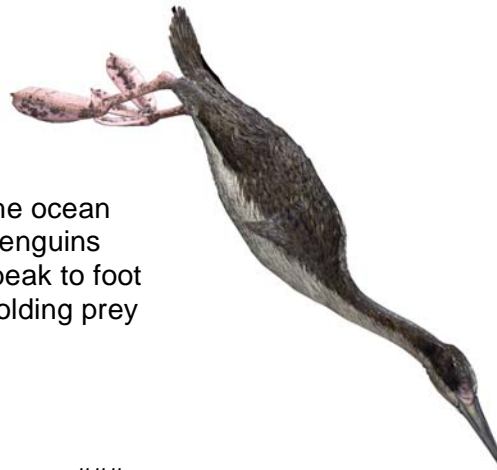


### ***Cretoxyrhina***

- Lived 82-95 million years ago
- Largest of the Late Cretaceous sharks, reaching 22-24 feet long
- *Cretoxyrhina* teeth have been found in *Tylosaurus* remains, clues that these two top predators may have encountered each other
- Sharks outlasted extinction of all marine reptiles, except sea turtles
- Was similar in size and role to the modern great white shark

### ***Hesperonis***

- Lived 65-89 million years ago
- Large flightless bird that swam in the ocean
- Swam and fed much like modern penguins
- Grew as big as 5-6 feet long from beak to foot
- Had teeth in its beak to help with holding prey



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8/07



## Q&A With Producer Lisa Truitt and Director Sean Phillips

### How did this project come about?

**Lisa Truitt:** The National Geographic magazine's December 2005 cover story "Sea Monsters" spawned the idea for a giant-screen film, something we immediately felt would be a perfect fit for the format. Sean [Phillips] specializes in 3-D giant-screen films and was involved in National Geographic's "Roar: Lions of the Kalahari," so it was an easy decision to ask him to be a part of this project.

### How is this different from other dinosaur films?

**Lisa Truitt:** This topic felt like an unturned stone, the first giant-screen film about what lived in the water during the dinosaur era. We found there is an astounding lack of awareness among the general public about ancient ocean life and the fact that Kansas, where we filmed much of the fossil hunting recreations, used to lie at the bottom of a vast sea.

**Sean Phillips:** And not just Kansas and the American Midwest — nearly all of Australia was submerged, and much of Asia and Europe were underwater. So for all the hype about dinosaurs on land, it was these astounding marine reptiles that dominated most of the planet. Audiences will discover creatures that are every bit as big and awe-inspiring as the *T-Rex*.

### What were the biggest challenges in making this film?

**Sean Phillips:** Giant-screen 3-D completely erases the typical boundaries of film space, allowing images to roam from the tip of your nose to infinity. But creating these spectacular visual effects can be technologically daunting, and there is little room for error in the world's highest-resolution movie format. In order to believably immerse the audience in the lives of the featured creatures, the film needed to look as if we took a camera back in time and filmed them in their natural habitats. So not only did we have to accurately depict these marine reptiles, we had to create the virtual water column in which they lived — the complex pattern of light, every fish and every particle, and their influence on each other.

**Lisa Truitt:** In addition to the myriad of technical challenges unique to the format, we were recreating with photo realism an extinct world with no witnesses to guide us. The film also follows a family of *Dolichorhynchops*, or "Dollies" for short, a storyline that brings to life what scientists have imagined life was like in the ancient ocean, and connects it with the modern-day fossil digs that have informed us about this amazing world. As with any contemporary natural history film, we had to be sure not to anthropomorphize the Dollies or other featured creatures.

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**This film takes audiences millions of years back in time — how do we know what these creatures really looked like? How are they brought to life on screen?**

**Lisa Truitt:** Paleontologists are like CSI investigators whose cases begin with the discovery of a body, or in this case, a fossil. We turned to such experts, who have been studying the fossils of marine reptiles their whole lives. Each scientist tends to specialize in a group of creatures, and they've spent years — sometimes decades — piecing together clues and imagining what these beasts looked like in real life. Fossils provide the bony structural foundation, which, in conjunction with what is known about modern animal anatomy and physiology, allows the scientists to determine, for example, how a *Styxosaurus*' paddle-like appendages would have moved while swimming.

**Sean Phillips:** The image technology itself is the slow task of layering — frame, movement, color and texture. After a bone-and-muscle model is built, comes what we refer to as the “skinning” of the creature. Here, we have a bit of artistic freedom on color and markings, although the texture of the skin has been preserved in fossil form, giving scientists a clear picture of the size and shape of scales. The sea monsters are then brought to life by the talents of animators using software technologies that manage the complex motions of joints. And following the animation rough-in, mathematical formulas are applied to simulate the creatures' mass and the changes of their bodies caused by motion through water.

**How did you select the creatures featured in the film?**

**Lisa Truitt:** We focused on the Cretaceous Period because it was a time when the fiercest and most diverse array of marine reptiles lived. And while the marine reptiles of the time are each fascinating in their own right, like any living thing they are most interesting in the context of their full environment, not in isolation. But few fossils have been found that show clear proof of interactions between creatures. We looked to evidence that was credible and based on science — for example, one creature's fossil found in the stomach cavity of another. The film's storyline and cast of creatures is based on those rare fossils that reveal such a connection.

**Is “Sea Monsters: A Prehistoric Adventure” more than a “monster movie?”**

**Lisa Truitt:** The sea monsters of the film are monstrous in size, monstrous in appetite, and yes, I wouldn't want to swim with most of them. But, they are also beautiful in the sense that they evolved to perfectly fit a role in their environment, and it is wondrous to think that such things really existed, swimming and hunting in seas that cover what are now our Midwest corn fields. We're excited that audiences will now be able to swim with them without ever getting wet!

**Sean Phillips:** The real science shown in this film is exhilarating as it allows us to understand and explore a vanished world more fantastic than any “monster movie” fiction. Combine this reality with such an immersive medium, where these leviathans swim off the screen and out over the heads of the audience, and it makes for one hell of a great movie experience.

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8/07



## Production Team

### **Lisa Truitt, Producer**

During her more than 20-year tenure at National Geographic, Lisa Truitt has led the foray into the giant-screen world, co-producing "Lewis and Clark: Great Journey West," and the acclaimed box-office-hit "Mysteries of Egypt," National Geographic's first giant-screen film, as well as overseeing "Forces of Nature" and "Roar: Lions of the Kalahari." As National Geographic's president of Giant Screen Films and Special Projects, Truitt oversees development, funding, production and distribution of all giant-screen products and varied special venue films. Under her direction, the new in-house distribution unit released its first 3-D film, "Lions 3D: Roar of the Kalahari", in February 2007, and will follow with "Sea Monsters: A Prehistoric Adventure" in October 2007. Truitt's experience includes producing and directing some two dozen television films, along with the critically acclaimed and Emmy award-winning National Geographic special "Arctic Kingdom: Life at the Edge." She has won many television and film awards, including the People's Choice award at the International Nature Film Festival.

### **Jini Dürr, Producer**

Jini Dürr has been a producer in high-tech entertainment for film, television and multimedia for the past 16 years. Her large-format films and theme park attractions include producing "R.L. Stine's Haunted Lighthouse 4D" for Busch Entertainment, and "Roar: Lions of the Kalahari" for National Geographic, winner of the Best Large Format Film award at the International Wildlife Film Festival. Her other production credits include Tom Hanks' "Magnificent Desolation: Walking on the Moon," "Siegfried & Roy: The Magic Box" and "T-Rex: Back to the Cretaceous," one of IMAX's top grossing films. Prior to opening her production company Day's End Pictures, Dürr worked as head of production at L-Squared Entertainment, as executive producer for L3 Interactive, and as visual effects producer and production manager at Metrolight Studios, a Los Angeles animation facility.

### **Sean Phillips, Director**

An award-winning director, cinematographer and visual effects supervisor, Sean Phillips has created memorable images in virtually every motion picture format, from giant-screen 3-D IMAX films to national television commercials. His many credits include "Technopia," "Bugs!," "T-Rex: Back to the Cretaceous" and Tom Hanks' "Magnificent Desolation: Walking on the Moon." Bestowed with numerous top industry honors, Phillips has been nominated for an Academy Award for his work directing the opening King Kong FX sequence for the IMAX™ format film "Special Effects," and in 2000 was presented with the Kodak Vision Award for Large Format Cinematography, recognizing individuals who have made extraordinary contributions to advancing the art of large-format visual storytelling.

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## PRODUCTION TEAM BIOS (PAGE 2)

### **Mose Richards, Writer**

Mose Richards has written 12 giant-screen films and more than 50 nonfiction TV films for a variety of clients, including National Geographic, NOVA, The Discovery Channel, Graphic Films, the National Air and Space Museum and the Cousteau Society. In addition to his work on "Sea Monsters: A Prehistoric Adventure," he recently completed the feature film "Arctic Tale" for National Geographic Films. His giant-screen credits include "Shackleton's Antarctic Adventure," "Kilimanjaro: Mountain of Many Faces," "Africa: The Serengeti," "Alaska: Spirit of the Wild," "Whales," "Ocean Men," "Amazing Journeys" and National Geographic's "Lewis and Clark: Great Journey West." His award recognitions include The George Foster Peabody Award, Writers Guild Award for Best Documentary, International Documentary Association Award for Distinguished Achievement and six Emmy nominations.

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8/07