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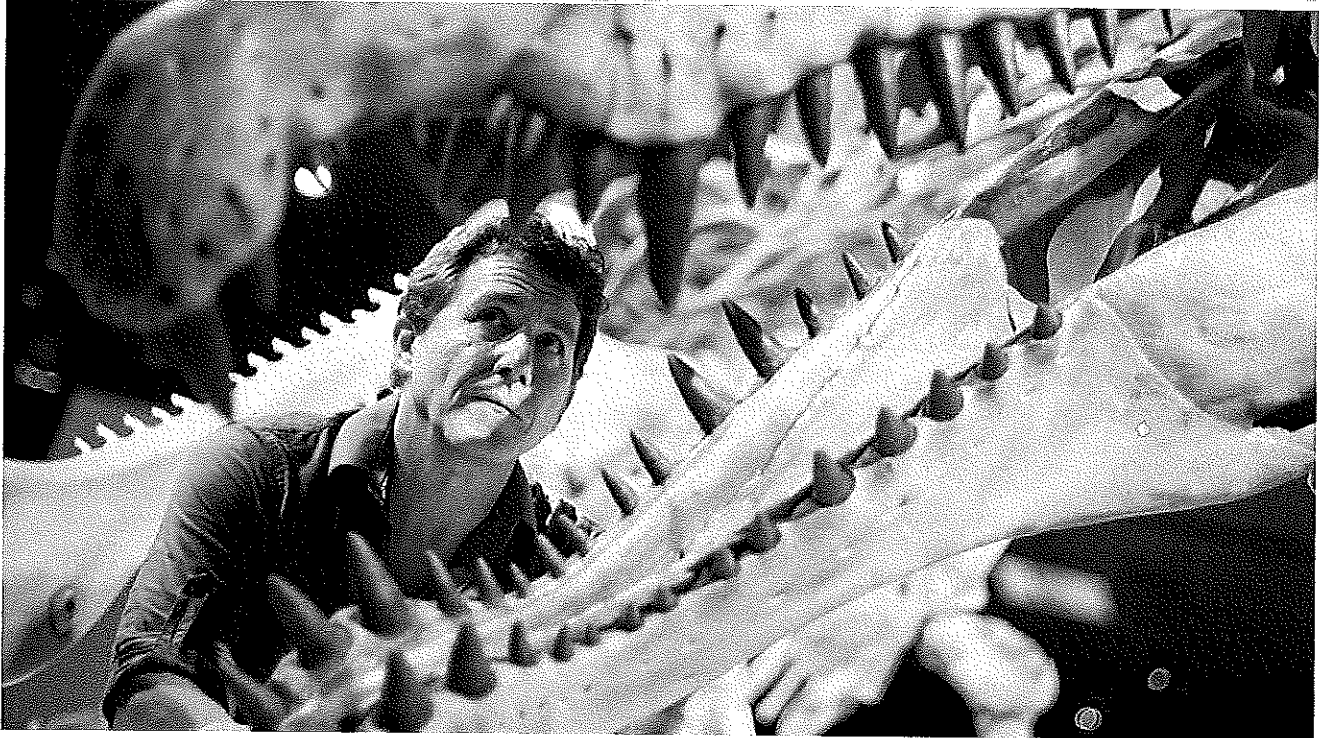
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Did Spinosaurus go “sailing” for food?

By Los Angeles Times, adapted by Newsela staff

DIRECTIONS: READ THE TEXT USING THE SQRL STRATEGY AND SELECT BEST ANSWERS FOR QUIZ.



University of Chicago paleontologist Paul Sereno looks inside the jaws of a 50-foot life-size model of a Spinosaurus dinosaur at the National Geographic Society exhibit in Washington, Sept. 10, 2014.

Dinosaurs were long thought to have lived only on land. However, strange dinosaur bones dug up in the desert of Morocco suggest that scientists may have been wrong. For the first time, there is evidence of a dinosaur that spent much of its life in the water.

Spinosaurus aegyptiacus was believed to have lived in Northern Africa 95 million years ago. *Spinosaurus* has been known about for years. It now seems, however, that its uniqueness and true appearance may not have been understood.

“It was not a balancing, two-legged animal on land,” said scientist Paul Sereno. “It would have been something very peculiar.”

At 50 feet long, *Spinosaurus* was likely the largest flesh-eating dinosaur to ever have walked the Earth. It was nine feet longer than *Tyrannosaurus rex*, which did not live in the same time period.

Similar To Gators And Crocs?

Spinosaurus had a long thin snout with teeth that jutted diagonally from its mouth—perfect for snapping at fish. Its small nostrils were far up on its skull—ideal for breathing while partly submerged. Odd openings at the front of the snout would have helped it detect movement while hunting in murky water. Similar openings can be seen today in the snouts of alligators and crocodiles.

Spinosaurus aegyptiacus belonged to a group of dinosaurs known as theropods, but it was quite unlike its fellow dinosaurs. The differences run from head to toe.

Other theropods, like T. rex and velociraptor, ran on two powerful legs and had small, thin arms. In comparison, Spinosaurus had muscular arms with blade-like claws that could have nabbed slippery fish. It had shorter legs that don't seem well designed for walking on land. Its feet were wide and flat and might even have been webbed.

The animal's center of mass was pushed far forward—terrible for moving on land but excellent for swimming.

Spinosaurus had a bony “sail” on its back, which stayed above the water as it swam. This would have helped it to keep moving without alerting other animals to its massive presence.

A Story Spanning A Century ...

The story of Spinosaurus is a complicated tale spanning a century. Bones belonging to one of the animals were flung across two continents before finally being reunited.

Spinosaurus was discovered in Egypt in 1912 and first described by German scientist Ernst Stromer in 1915. Stromer took the skeleton back to Germany. But in 1944 the bones were destroyed in a bombing raid during World War II. Aside from the careful drawings Stromer made, and a few photographs, all evidence of the discovery was lost.

The story didn't end there, though. It was picked up 60 years later by Nizar Ibrahim, who is a paleontologist—a scientist who studies the history of life before humans, often through examining ancient bones known as fossils. In 2008, Ibrahim was working in Morocco when a local fossil hunter approached him with a cardboard box.

Inside the box were various ancient bones. Among them Ibrahim noticed a strange blade-shaped fossil with a red line running through it.

Later, Ibrahim was visiting a museum in Italy when scientists there told him about some strange fossils in the museum basement. The bones, they said, had been sent from Morocco. “My jaw

dropped,” Ibrahim said. It was a rich collection of leg, foot and rib bones—and the same strange blade-shaped fossils with the red line running through.

Ibrahim had already wondered if the bones were Spinosaurus. Now he suspected the two collections, spread across two continents, had come from the exact same animal. However, the Italian researchers didn’t know where their bones had been dug up. Without knowing that, it would be impossible to tell the time period, and the location, in which the animal had lived.

... Two Continents, And A Cafe

On a hunch, Ibrahim decided they needed to find the man with the box. He didn’t have his name or number, but recalled that the man had a mustache. Armed with that tiny bit of information, they returned to Erfoud—a Moroccan town of more than 20,000 people—and searched for him, with no luck.

“Toward the end of our mission impossible,” Ibrahim said, “we were just sitting in a cafe in Erfoud, sipping mint tea and I just saw all my dreams going down the drain . . . and at that very moment just when everything seemed to be lost, a person walks past our table.”

Sure enough, it was the man with the mustache.

Fossil hunters often won’t reveal their dig sites, for fear that others will try to dig there as well. Luckily, Ibrahim managed to persuade the man to take him to the spot. To Ibrahim’s excitement, still more Spinosaurus bones were uncovered there.

Ibrahim also traveled to Germany, where Stromer’s granddaughter gave him her grandfather’s sketches of the Egyptian skeleton. Based on those drawings and the bones from Italy and Morocco, Ibrahim was able to reconstruct a model of the Spinosaurus skeleton.

It was that model which led to Ibrahim’s groundbreaking conclusion: Contrary to what scientists had always believed about all the dinosaurs, Spinosaurus spent much of its life in water.

Quiz

1. Select the sentence that BEST shows that Spinosaurus faced difficulty living out of water.
 - (a) For the first time, there is evidence of a dinosaur that spent much of its life in the water.
 - (b) Its small nostrils were far up on its skull - ideal for breathing while partly submerged.
 - (c) The animal's center of mass was pushed far forward - terrible for moving on land but excellent for swimming.
 - (d) Spinosaurus had a bony "sail" on its back, which stayed above the water as it swam. This would have helped it to keep moving without alerting other animals to its massive presence.
2. Which of the following implied that the two sets of collections belonged to the same animal?
 - (a) the length of the legs and rib bones
 - (b) the location where they were found
 - (c) the time period to which they belonged
 - (d) strange blade-shaped fossils with a red line running through them
3. What is the connection between Tyrannosaurus rex and Spinosaurus?
 - (a) both had muscular arms
 - (b) both were herbivorous dinosaurs
 - (c) both lived around 95 million years ago
 - (d) both belonged to the group called theropods
4. Select the paragraph from the section "A Story Spanning A Century ..." that describes when Spinosaurus was discovered for the first time.