

## THE 110 MILLION YEAR OLD SUPERCROC

By Roy W. Rings

On Tuesday evening, January 24 at 7 pm I watched a Sci Fi movie billed as “Crocodile 2: Death Roll”. It was about gigantic crocodiles gobbling up the unfortunate passengers whose airplane crashed in a vast Mexican Swamp. Except, of course, for the well-endowed heroine, Heidi Lenhart and her grizzled boyfriend, Chuck Walczac.

These monstrous Hollywood reptiles could have been the reincarnation of real, live crocodiles that lived 110 million years ago.

When the first gargantuan crocodile was unearthed by French paleontologists in the desert of Niger, West Africa in 1966, the few fragments that were found gave only a sketchy picture of a giant carnivore. The fossil species was described as *Sarcosuchus imperator* Broin and Taquet. The italicized words mean “Flesh crocodile emperor”.

During expeditions to the Tenere Desert of Niger in 1997 and 2000 paleontologist Paul Sereno experienced an incredible find, the nearly complete remains and several partial skeletons of *Sarcosuchus imperator*, one of the largest crocodylians to ever walk the Earth. Sereno and his team published a detailed description of the animal in the November 16, 2002 issue of the journal “Science”. Sereno’s co-authors were Hans Larsson of Yale, Christian Sidor of the New York College of Osteopathic Medicine and Boubè Gado of Niger’s Institut de Recherches en Sciences Humaines. Sereno found the remains of



*Sarcosuchus* in the same 110-million-old layer of sediments where he discovered *Suchomimus* in 1997. *Suchomimus*, walked upright and was probably a fish-eating predator, measuring 36 feet long and 12 feet high at the hips. Although a giant itself, *Sarcosuchus* had to be on the alert for surprise attacks from the stealthy *Suchomimus*, Sereno said.

By comparing measurements of modern crocodiles and alligators with the “Supercroc”, as Sereno had nick-named the monster, *imperator* would have been 40 feet long and weighed ten tons. Its six foot long skull had jaws that were studded with more than 100 bone-crushing teeth, and it had an enormous, bowl-shaped snout. This unusual snout may have enhanced the animal’s sense of smell, or it may have been used to make sounds. Niger has noted this discovery on two postage stamps issued on December 14, 1977 and October 27, 2000, (Scott 421 and 1062e). One is shown above.

*Sarcosuchus* lived in the middle Cretaceous period, along with the Tyrant Lizard, *Tyrannosaurus rex*. “This crocodile was probably capable of bringing down just about any dinosaur under the right circumstances,” said Sereno, Professor of Organismic Biology and Anatomy at the University of Chicago and a National Geographic Explorer-in-residence.

Despite certain similarities to the much smaller gharial, *Sarcosuchus* became extinct with the dinosaurs and is not closely related to modern crocodiles. The gharial is a modern crocodylian with a very narrow head inhabiting wetlands and rivers in India.

The new find also helps place *Sarcosuchus* in an evolutionary scheme. “The new material gives us a good look at hyper giant crocodiles—there’s been rampant speculation about what they looked like and where they fit in the crocodylian family tree, but no one had enough of the skull and skeleton to really establish their characteristics until now” Sereno told Science Online.

A cast of the six-foot skull of *Sarcosuchus* is on display in the lobby of the John Crerar Library at the University of Chicago. A more extensive exhibition was under preparation for the city of Chicago in 2002.

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