



EMBARGOED NEWS

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THE NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY MAKES SCIENTIFIC HISTORY WITH 78-MILLION-YEAR-OLD "PREGNANT PLESIOSAUR"

Now on View in NHM's New Dinosaur Hall, Unique Fossils of Adult Animal and Its Embryo Provide First Evidence of Live Birth Among These Prehistoric Marine Reptiles

August 7, 2011 – A paper to be published on August 12, 2011 in the authoritative magazine *Science* reveals that Dr. F. Robin O'Keefe of Marshall University in Huntington, W.Va. and Dr. Luis Chiappe, Director of the Natural History Museum's Dinosaur Institute, have determined that a unique specimen now displayed in NHM's Dinosaur Hall is the fossil of an embryonic marine reptile contained within the fossil of its mother.

The 78-million-year-old, 15.4-foot-long adult specimen is a *Polycotylus latippinus*, one of the giant, carnivorous, four-flipped reptiles known as plesiosaurs that lived during the Mesozoic Era. The embryonic skeleton contained within shows much of the developing body, including ribs, 20 vertebrae, shoulders, hips, and paddle bones. The research by Dr. O'Keefe and Dr. Chiappe establishes that these dual fossils are the first evidence that plesiosaurs gave birth to live young, rather than hatching their offspring from eggs on land.

Although live birth (or viviparity) has been documented in several other groups of Mesozoic aquatic reptiles, no previous evidence of it has been found in the important order of plesiosaurs. Drs. O'Keefe and Chiappe have also determined that plesiosaurs were unique among aquatic reptiles in giving birth to a single, large offspring, and that they may have lived in social groups and engaged in parental care.

"Scientists have long known that the bodies of plesiosaurs were not well suited to climbing onto land and laying eggs in a nest," Dr. O'Keefe stated. "So the lack of evidence of live birth in plesiosaurs has been puzzling. This fossil documents live birth in plesiosaurs for the first time, and so finally resolves this mystery. Also, the embryo is very large in comparison to the mother, much larger than one would expect in comparison with other reptiles. Many of the animals alive today that give birth to large, single young are social and have maternal care. We speculate that plesiosaurs may have exhibited similar behaviors, making their social lives more similar to those of modern dolphins than other reptiles."

Plesiosaurs have no known living relatives, but were common in the world's oceans during the Age of Dinosaurs. They were among the top predators in the Western Interior Seaway, the vast, tropical body of water that split North America during the Cretaceous when waters from the Arctic Ocean and the Gulf of Mexico flooded onto the continent and met.

The remarkable NHM specimen was discovered in 1987 by Charles Bonner on the Bonner Ranch in Logan County, Kansas. Virtually complete except for parts of the adult's neck and skull, the "mother" specimen and her baby were given extensive conservation by NHM and then mounted for display by Phil Fraley Productions (Patterson, NJ) with the supervision of Drs. O'Keefe and Chiappe. The specimen is currently on display in the Dinosaur Hall, the new 14,000-square-foot exhibition at NHM featuring more than 300 fossils and 20 complete mounts of dinosaurs and sea creatures.

"Like many other specimens on display and in our collection, this extremely important specimen is among the significant fossils that can be admired and studied only here in Los Angeles," Dr. Chiappe stated. "We're very proud that at NHM, these irreplaceable materials are accessible not only to research scientists but to the public, giving people the opportunity to connect the quest for knowledge with the wonder of seeing the remains of these ancient and mysterious animals."

About the Natural History Museum of Los Angeles County

NHM is located at 900 Exposition Blvd., Los Angeles, CA, 90012, near downtown. Open seven days a week from 9:30 a.m. to 5 p.m. \$12 for adults; \$9 for college students with ID and seniors 62+; \$8 for youth 13-17; \$5 for children 5-12; FREE for children 4 and under, Museum members, LAUSD students and teachers, and military personnel and families. For further information, visit the Museum's website at www.nhm.org or call (213) 763-DINO

NHM was the first dedicated museum building in Los Angeles, opening its doors in 1913. NHM has amassed one of the world's most extensive and valuable collections of natural and cultural history — with more than 35 million objects, some as old as 4.5 billion years. The Natural History Family of Museums includes the NHM, the Page Museum at the La Brea Tar Pits (Hancock Park/Mid-Wilshire), and the William S. Hart Museum (Newhall, California).

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