

## Macalester professor and undergraduate helped collect important new Cretaceous mammal skull in Madagascar

**St. Paul, Minn.** – Macalester Geology Professor Ray Rogers and alumna Madeline Marshall '12, a current University of Chicago graduate student studying paleontology, were part of a small team exploring 68 million-year-old rocks in northwestern Madagascar in 2010. While there, they helped recover the nearly perfect skull of an animal that has turned out to be one of the most important dinosaur-era mammals ever found.

Today, the international science journal *Nature* will publish an article detailing the discovery of this new mammal from Madagascar. It is called a gondwanatherian and is important because previous finds were only of its isolated teeth and small jaw fragments. Now, scientists know what a gondwanatherian looked like and can link these isolated teeth to the newly discovered skull.

The skull was brought back to Stony Brook University in New York after the 2010 field season, where a block of fossil rich rock was CT-scanned and the mammal within revealed. The paleontologist at Stony Brook, Prof. David Krause, a mammal specialist who has directed the Mahajanga Basin Project in northern Madagascar for two decades, was stunned by the unexpected find. Rogers was also surprised.

“We were the field team that recovered the specimen,” said Rogers, the geologist for the Mahajanga Basin Project who had been to Madagascar many times before. “It’s amazing that this happened. We were working along the shores of Lake Kinkony with our Malagasy colleagues and a Stony Brook graduate student collecting information on the local rock section while also prospecting for fossils of dinosaurs, crocodiles, fish, and other ancient animals. We identified a productive bone bed - a concentrated deposit of fossils - and decided to collect a couple large blocks of fossil rich matrix to bring back for further preparation.”

The field team knew the blocks would yield fish bones, but had no idea the mammal skull was in there.

“Luck? It’s a big part of paleontology,” Rogers said. “The name of the new animal, *Vintana sertichi*, reflects this fact. “Vintana” means luck in Malagasy.”

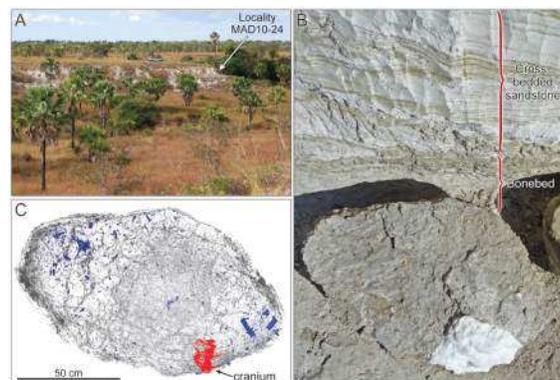
The gondwanatherian mammal named in the report in *Nature*



Field Crew from the 2010 Lake Kinkony Expedition, left to right: Joe Sertich (Stony Brook University grad student), Ernest (local guide), Madeline Marshall '12, Lydia Raharansarisoa (University of Antananarivo paleontology professor), Ray Rogers. Desire Randrianarisata photo.

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was a contemporary of the dinosaurs. It is the largest known fossil mammal from the Mesozoic of the southern supercontinent of Gondwana, and it inhabited coastal environments frequented by dinosaurs, crocodiles, and fish.

The National Science Foundation and the National Geographic Society funded this research.

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Link to the *Nature* scientific paper: <http://www.nature.com/nature/journal/vaop/ncurrent/full/nature13922.html> (<http://www.nature.com/nature/journal/vaop/ncurrent/full/nature13922.html>)

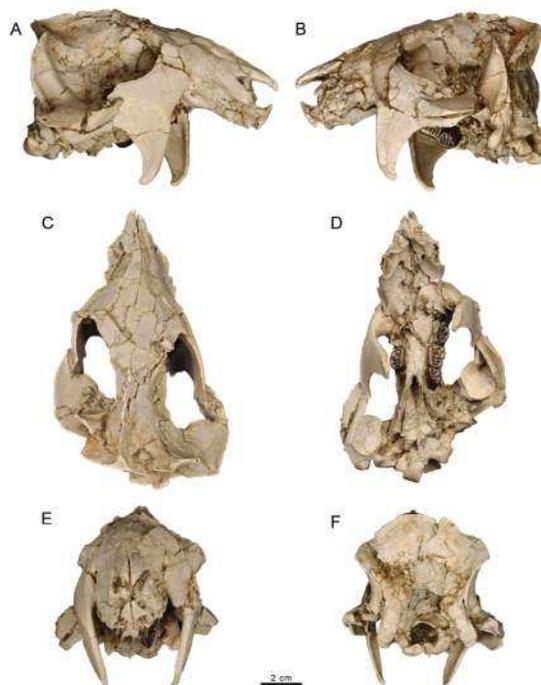
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The field view: A - the field site, B - the block of bone bed sediment that yielded the skull, and C - a CT-scan of the block, revealing the skull. Lucille Betti-Nash (Stony Brook University).

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Skull views the new mammal, *Vintana sertichi*. Lucille Betti-Nash (Stony Brook University).

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