Miocene Vertebrate Fossils Recovered from the Pascagoula Formation in Southeastern Louisiana

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ABSTRACT

The first significant vertebrate fossil site in the Pascagoula Formation was discovered at a location in the Tunica Hills in southeastern Louisiana during June, 2005. A mastodon palate with teeth was initially reported by Kerry Dicharry, an amateur naturalist. Subsequent field surveys revealed abundant large- and medium-sized mammal remains, including two mastodon tusks associated with the palate (one nearly seven-foot-long) and an associated humerus, femur, pelvis, ribs and part of the tail of *Teleoceras*, a large, short-legged rhinoceros. Other animals tentatively identified include a dwarf rhinoceros, three taxa of horses, a small llama-like artiodactyl, a pronghorn-like antilocaprid, and fishes, turtles, and alligators. In a novel application, we are attempting to use resistivity surveying to locate buried large bones.

Preliminary examination of the blue-green, clayey silt lithology and trace fossils (*e.g.*, burrows and trails) of the Pascagoula Formation at the Tunica Hills Site suggests that the depositional paleoenvironment was an estuary. Palynomorphs and phytoliths may shed light on the flora, paleoenvironment, diet of the animals, and age of the deposits.

The Pascagoula Formation in Louisiana has been dated on stratigraphic position because no fossils had been reported from it. The horse *Nannipus* and the dwarf rhinoceros suggest an age no younger than Miocene, as these animals became extinct in North America before the Pliocene. The vertebrate fauna so far is consistent with a late Miocene age (Hemphillian North American Land Mammal Age), younger than Miocene vertebrate sites in the Castor Creek Member of the Fleming Formation on Fort Polk in western Louisiana (Barstovian North American Land Mammal Age).