THE THOMAS FARM FOSSIL QUARRY

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The Tertiary deposits of the western United States have yielded a remarkably complete story of the history of land mammals throughout the entire extent of the Age of Mammals. Although the Pleistocene and the last phase of the Tertiary are well represented in the eastern United States and a few marine deposits of Miocene age are known, only one early terrestrial deposit of any consequence is present in the known sedimentary rocks east of the Mississippi River. The reason for this lack of fossil record, in this part of North America, is due to the early Tertiary sediments being dominantly marine in nature and hence containing no land mammals. The one exception to this barren record lies in north central Florida. This deposit, the richest bone bed of Miocene age in eastern North America, is located in Gilchrist County in a most unpromising-appearing setting of low, sandy flatwoods having none of the "usual" surface outcrops visible with which vertebrate fossils are associated. The circumstances that led to the discovery, purchase and development of the now famous Thomas Farm quarry are worthy of relating here in some detail.

In September 1931, Mr. J. Clarence Simpson, of the Florida Geological Survey, was investigating a reported Indian graveyard that had turned up while plowing through a depression in an abandoned field of the old Raeford Thomas Farm located between Bell and Ft. White. Mr. Simpson determined correctly that these bones were not of human origin but represented, instead, the remains of the small three-toed horse *Parahippus* and were similar to those obtained from the fuller's earth pit at Midway, Florida, in Gadsden County. A small collection of fragments from those that littered the surface of the shallow depression which marked the original site, were sent back to the Geological Survey office. The Survey Director at that time, Dr. Herman Gunter, forwarded these scraps to Dr. G. G. Simpson at the American Museum of Natural History. Dr. Simpson recognized the scientific importance of this find and urged that more material be collected if possible.

Dr. Gunter secured permission to excavate and several more

trips were made to the farm by personnel of the Geological Survey between 1931 and 1932. An account (Simpson, 1932) of the first material obtained at this dig was published in 1932.

In 1939, Dr. Thomas Barbour, Director of the Museum of Comparative Zoology at Harvard College, made one of his frequent trips to Florida to obtain fossils. During the course of his stay in Tallahassee, Barbour had occasion to examine the fossils that had been obtained from the deposits at the Thomas Farm.

The result of this visit was a desire, on Barbour's part, to purchase the forty acres of land that contained the fossil quarry so that it would be protected for future scientific excavations. The property was purchased and deeded to the present owner, the University of Florida, with the understanding that Harvard University and the Florida Geological Survey would also enjoy the privilege of collecting fossils from the Thomas Farm quarry, for scientific study or display. The Florida Geological Survey has received the cooperation of both universities in its endeavor to obtain a series of vertebrates from this locality for state collections housed in the Survey's quarters at Tallahassee.

The nature of this locality, as it appeared in Miocene times, has not been solved to the satisfaction of all concerned. Indications point to a partially filled sinkhole or to a cavern or rock shelter having considerable depth, located perhaps at the edge of a stream. That a cavern of some sort was present is attested to by the numerous bat remains that are found in the rubble of a boulder bar or breakdown of a long collapsed cave roof. That this cavity was at times water fed is indicated by the various amphibian, alligator and aquatic turtle remains that are present in the sediments. However, no reliable or identifiable fish bones have been found in the nearly three decades of digging since the quarry was first discovered. Another indication that this deposit was periodically stream fed, while the animals were being entombed, is substantiated by the waterworn scraps of bone and by the evidence that no articulated or individually associated skeletons have been found. Instead, it is not unusual to find five or six horse skulls nesting together or half a dozen or so femora, of the same side of the animals represented, lying in close contact. Although quite a few complete skeletons are known of the small horse *Parahippus,* the different elements composing these complete skeletons probably represent several individuals rather than belonging to one animal

as is usually the case in most vertebrate fossil quarries from which complete mammal skeletons are known.

The varied fauna includes no less than 52 species either described or in process of description, of which 7 are amphibians, 6 are reptiles, 10 are birds, and 28 are mammals. The recorded fauna will be considerably enlarged when studies now in progress are completed. Significant additions will certainly be made among the snakes, perching birds, and bats. It is probably safe to predict that the fauna will ultimately include no less than 65 species, with the additional novelties appearing primarily among the smaller vertebrates as a product of washing operations. A list of the known fauna generally agreed to be Arikareeanin age has been compiled by C. E. Ray (1957).

Faunal List [1]

AMPHIBIA: Frogs, Salamanders, and Allies

Anura: Frogs

Scaphiopus cf. *holbrooki,* Spadefoot Toad

? Leptodactylidae, Frog of uncertain familial affinity

Bufo praevius, Toad

Hyla goini, Tree Toad

Microhyla, sp. Indet., Toad

Rana, sp. Indet., Frog

Urodela: Salamanders

Siren hesterna, siren

REPTILIA: Turtles, Snakes, Lizards, and Crocodilians

Pseudemys, sp. Indet., Terrapin

Geochelone tedwhitei, Land Tortoise

Peltosaurus floridanus, Glass Lizard

Neurodromicus stanolseni, Boid Snake

Ogmophis pauperrimus, Boid Snake

Alligator olseni, Alligator

A considerable herpetofauna (notably snakes) is present, but is as yet undescribed.

AVES: Birds

Phalacrocorax subvolans, Cormorant

Promilio floridanus, Kite

Promilio epileus, Kite

[1] This fauna is generally agreed to be Arikareean in age.

Promilio brodkorbi, Kite
Boreortalis laesslei, Chachalaca
Rhegminornis calobates, Shore Bird
Columbidae, Doves, 2 undescribed species
Coraciiformes, 2 undescribed species, one a Barbet and one representing a new family
Compsothlypidae, Gen. et. sp. Indet., Wood Warbler
Several undescribed passerine (perching) birds are present.

MAMMALIA: Mammals
Soricidae, Shrew, undescribed species
Suaptenos whitei, Vespertilionid Bat
Miomyotis floridanus, Vespertilionid Bat
Several undescribed species of bats are present.
Mesogaulus, sp. Indet., Rodent, undescribed species
Sciuridae, Ground Squirrel, undescribed species
Proheteromys magnus, Pocket Mouse
Proheteromys floridanus, Pocket Mouse
Cricetidae, New World Mouse, undescribed species
Cynodesmus iamonensis, Coyote-sized Dog
Tomarctus canavus, Coyote-sized Dog
Enhydrocyon spissidens, Small Dog
Amphicyon longiramus, Large-Dog-like Bear
Absonodaphoenus bathygenus, Small Dog
Aelurodon johnhenryi, Bear-sized Dog
Oligobunis floridanus, Large Mustelid
? *Miomustela*, sp. Indet., Weasel-like Mustelid
Leptarctus ancipidens, Badger-like Mustelid
Anchitherium clarencei, Large conservative Horse
Parahippus blackbergi, Small Advanced Horse
Parahippus leonensis, Large Advanced Horse
Rhinocerotidae, Gen. et. sp. nov., Large Rhinoceros
Diceratherium (*Menoceras*), sp. nov., Small Rhinoceros
Desmathyus olseni, Peccary
Floridatragulus dolichanthereus, Camel
Nothokemas floridanus, Camel
Synthetoceras (*Prosynthetoceras*) *australis*, Artiodactyl belonging to extinct family
Blastomeryx (*Parablastomeryx*) *floridanus*, Small Deer
Machaeromeryx gilchristensis, Small Deer