

Florida Fossil Horse Newsletter

Volume 6, Number 2, 2nd Half 1997

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Florida Archaeohippus skeleton completed

One of the goals of the *Pony Express* program has been to obtain sufficient bones of the tiny, rare horse *Archaeohippus* to reconstruct a complete skeleton for our new fossil horse exhibit, which is planned for our new FLMNH exhibits facility in Powell Hall on the UF campus. Although fossil horses are very common at the 18 million-year-old Thomas Farm site, from which Florida *Archaeohippus* is best known, these are mostly represented by the three-toed horse *Parahippus*. Thus, over the years, finding sufficient bones for the *Archaeohippus* has proven to be quite a challenge.

While lower jaws and skeletal bones of *Archaeohippus* have been found from Thomas Farm, until recently, the all-important skull had been elusive. The logjam towards our goal was

broken in 1995 with the discovery of a beautiful skull by Jeff Yaun (see *Pony Express* Vol. 5, no.1) and then another by Mike Toomey. After these discoveries, we decided it was time to proceed with the reconstruction of the skeleton. All available bones were gathered together and a contract was awarded to Steve and Suzan Hutchens (who also articulated our museum's skeleton of *Leisey Equus*). Because of the fragile nature of the small bones and the crushing of the skull, much paleopreparation and reconstruction was required before the individual parts could be articulated into the skeleton. Also, much thought was put into the pose. We decided to mount the *Archaeohippus* as if it was browsing, i.e., feeding on leaves of a bush. This is consistent with what paleontologists surmise was its diet based on the shape of its low-crowned teeth. We also agonized over the stance and sought much critical input from the FLMNH staff before we made our final decision.



*This finished skeleton of *Archaeohippus blackbergi* will join the *Leisey Equus* in our new Education & Exhibition Center at Powell Hall in the near future. (Photo by Ray Carson, Division of News & Public Affairs)*

Steve and Suzan completed the skeleton in April. The skeleton was actually first "unveiled" during the 1997 *Pony Express* Session I Thomas Farm dig. It was indeed quite a thrill for all of us to behold. The skeleton is elegant in stature and exquisite in every detail. Its body proportions are, in many respects, similar to modern-day small forest-dwelling deer rather than just a scaled-down horse. To my knowledge, this is the only articulated skeleton of the genus *Archaeohippus* that exists anywhere. As such, we look forward to the time when it becomes part of our new fossil horse exhibit for every museum visitor to appreciate.

First Annual Pony Express Lab Session at FLMNH

Editor's Note: The following article by Jewel Pozefsky was reprinted with slight modifications, from the Florida Fossil Hunters News. Jewel is Education Chairman for the Florida Fossil Hunters and participated in this pilot lab session for Pony Express.

On June 19-22 the staff of Vertebrate Paleontology at FLMNH, Gainesville, conducted a two-day lab on paleontological preparation, identification., cataloging, etc.

We started off on a high note with a cocktail party hosted by Jeannette and Bruce MacFadden on Thursday evening at their home.

Friday morning Marc Frank, the museum's collection manager, gave a lecture on mammalian skeletal anatomy, emphasizing creatures of Thomas Farm. Using the articulated *Archaeohippus* skeleton he showed us the long and short bones and features which could distinguish them should you only find a part of one. He then grouped the vertebrae so that we could remember them better by their features since each section of the spinal column differs in function and form. We then put his words into action by articulating deer skeletons!

We were divided into two groups and my group began identifying and logging the screen-washed bones found at this year's Thomas Farm dig. We were aided by Marc Frank, Casey Holliday, and *Pony Express* program coordinator Erika Simons.

Erika had made up a template of the more common horse bones, which greatly facilitated our work. Material had been neatly organized by discoverer in large trays with a collection of small boxes and

labels for us to complete (another big organizing job that set us up for success).

The other group joined Russ McCarty, senior preparator and conservator, and removed material which had been jacketed on the dig.

Art Poyer gave us a presentation on the importance of microfossils and we used the stereo microscope to view some of the minute specimens. He assisted us in the prep lab, too.

Mr. McCarty gave us valuable information about plaster jackets, which led to our asking for such sessions before digging at Thomas Farm. You appreciate the need for careful work while making the jackets even more after you have worked at removing a fragile specimen from a jacket.

An extra special thanks to Mr. McCarty also for something he has done for FFH, the Paleo-Quest class, and, in the long run, the Orlando Science Center and its visitors. He spent 4 hours making a mold and cast of the whale ear bone we found in Melbourne a few years ago. We owe him much thanks for a great job.

On Friday evening we went to Bob and Erika Simons home for a cook out. Dr. Bruce MacFadden handled the hot dogs and burgers duties.

On Saturday morning we continued our work from Friday afternoon. After lunch we switched duties and my group went over to the preparation lab while the other group went to work on identifying their screen washed material.

After 'school' several of us went fossil hunting. Some of the participants had never been digging! Marcia Wright, a teacher in Orlando, and I went back on Sunday. We found many of the same things found at the Peace River with no big finds, but the water was warm, clear. The company was great and I was pleased to be outdoors, fossiling, without snakes and alligators. The few mosquitoes were swatted away! Can't expect perfection!



Participants identifying fossils from Thomas Farm at the First Annual Pony Express Lab Session. (Photo by Erika H. Simons)

More Lab Session Testimonials

Dear Erika,

...This past weekend was an incredible experience for me, (and from conversation with the other participants - they loved it too!) and I can't thank you all ("ya'll") enough for all the effort and preparation that went into the project.

While I'm sure that all of you are relieved that it's over, I hope you'll really consider doing something similar again... I learned so much and am still assimilating a lot of it - what a valuable experience! Marcia Wright (Winter Park)

I just wanted to let you know that this past weekend lived up to all my expectations. ...fun, interesting and educational. I think that given a choice, I would rather work in the lab than in the dig itself. I hope you have further labs... I've been telling everybody about the lab all week. Sheila Brodbeck (Wellington)

...Wish I lived closer to Florida so I could get together with all the neat people I met at the lab session... Since I am working on horses, I really enjoyed learning about extinct horses... Thanks again for a wonderful experience. Teri Lear (Lexington, KY)

The Pit Boss's Reflections on the 1997 Thomas Farm Dig

1997 was another fantastic field season at Thomas Farm. Our first objective having been fulfilled with the completion of the beautiful mounted *Archaeohippus* skeleton, we have set a new goal. This time we have set our sights on the largest and rarest horse at Thomas Farm, *Anchitherium clarencei*. Some of our diggers can already claim the distinction of having found bones of this elusive animal (see list below).

This year we have also added a third field session. The *Pony Express* digs have grown so much that there were enough people to fill this session. There were 46 diggers over the 3 sessions. Hundreds of catalogable fossils were found, including the jaws and pelvis of *Diceratherium barbouri*, the small Thomas Farm rhino, several *Archaeohippus*, *Parahippus* and camel jaws, as well as several carnivore elements and *Anchitherium* toes. As in previous years, there was never a lack of enthusiasm in our crews. This was particularly apparent during session II, which was caught in a miserable rain storm. The Friday night rain didn't do much damage. The site was fairly dry under the shelter, but we had to take special care not to slip and fall while carrying buckets to the spoil piles. When it poured again on Saturday night, most of the site under the shelter was inundated. On Sunday morning we encountered a virtual mud puddle. Most of the low squares were flooded and were abandoned. The poor victims of those squares brought up their tools and proceeded to break camps. A few of the diggers, however, had exposed some prime fossils that they just could not leave to be trampled or exposed to the weather for a full year. Jewel Pozefsky had a camel jaw waiting for her, Joan Cabreza still had a conglomerate of bone to sort out and some people, like Pat and Larry Ward just couldn't stay out of the mud. Everybody had to dig little makeshift drains into their square and carrying the spoil was sheer misery. My hat is off to all those dedicated souls from session II .

Sessions I and III had their own challenges. In session I we opened up several new squares to prepare for a move of the enclosure in the near future. The first few layers of these squares were rich in microfauna, though not very productive in bigger bones, and these squares were out in the hot sun. The session III crew was very kind and stayed to help clean equipment.

The following list of fossils found by each digger, is by no means complete. It reflects the best of your finds.

Session I - April 17 -20:

Person Name	Sci Name	Material
Tom Ahern (Temple Terrace)	<i>Parahippus leonensis</i>	teeth, pisiform
	Camelidae	cuboid
	Canidae	tibia
	Carnivora	vertebra, femur
	Serpentes	vertebra
Brian Ahern (Temple Terrace)	<i>Archaeohippus blackbergi</i>	teeth, radius
	<i>Diceratherium barbouri</i>	radius
	Canidae	tooth

	<i>Alligator olseni</i>	dentary frag., femur
Catherine & Robert Carr (Deland)	<i>A. blackbergi</i>	teeth, radius
	<i>Blastomeryx floridanus</i>	tibia
	<i>Amphicyon longiramus</i>	tooth
	<i>Leptarcus ancipidens</i>	mandible
Joel Carr (Deland)	<i>A. blackbergi</i>	mandible
	<i>D. barbouri</i>	lunar
	Artiodactyla	radio-ulna, metapodial
	<i>A. longiramus</i>	cuboid
	<i>A. olseni</i>	vertebra
Audrey Carter (Winter Garden)	<i>Machaeromeryx gilchristensis</i>	astragalus
	<i>A. longiramus</i>	pisiform
	Canidae	femur, metacarpal
	Serpentes	vertebra
Wiley V. Dykes, Jr. (Orlando)	<i>A. blackbergi</i>	vertebrae, tibia, metacarpal
	<i>P. leonensis</i>	mandible, tibia
	Canidae	metacarpal
	<i>Phoberocyon johnhenry</i>	tooth
David Karlen (Brandon)	<i>A. blackbergi</i>	vertebra
	<i>P. leonensis</i>	tarsal, sesmoid
	Chiroptera	longbone
Bill Lee (Baton Rouge, LA)	<i>A. blackbergi</i>	metatarsals
	<i>Prosynthetoceras texanus</i>	metacarpal
	Carnivora	vertebra, patella
	<i>Hesperotestudo tedwhitei</i>	marginal
Steve Hutchens & Sue Hutchens (OldTown)	<i>A. blackbergi</i>	axis, mandible
	<i>D. barbouri</i>	pelvis
	cf. <i>Nothokemas floridanus</i>	tooth
	B. floridanus	tooth, metapodial
Bill Killingsworth (Leeds, AL)	<i>A. blackbergi</i>	patella, unciform
	<i>M. gilchristensis</i>	calcaneum
	Camelidae	phalanx
	Artiodactyla	calcaneum, ectocuneiform
Jeff Yaun (Mayport)	<i>A. blackbergi</i>	mandible frag
	<i>D. barbouri</i>	mandibles
	<i>B. floridanus</i>	cubo-navicular

	<i>A. longiramus</i>	scapho-lunar
	Canidae	tooth
Glyniss Hudson (Winter Springs)	<i>A. blackbergi</i>	humerus, femur, tarsals, phalanges
	<i>B. floridanus</i>	radius
	<i>Tomarctos canavus</i>	mandible
	Canidae	premolar
Frances Rowe (Jaxville)	<i>A. blackbergi</i>	tooth, tibia
	<i>P. leonensis</i>	teeth, tibia, tarsals
	Camelidae	mandible
	Artiodactyla	femur
	Carnivora	scapho-lunar
Paula Rowe (Bensenville, IL)	<i>P. leonensis</i>	mandibular symphysis, astragalus
	Artiodactyla	astragalus
	<i>A. longiramus</i>	radius
	<i>A. olseni</i>	tooth, vertebra
Doris Hargrave (Gainesville)	<i>A. blackbergi</i>	tibia, metatarsal
	<i>B. floridanus</i>	phalanx, metacarpal
	<i>M. gilchristensis</i>	phalanx
	cf. <i>Desmathyus olseni</i>	tooth
Kristin & Will Edmunds (Berlin, MD)	<i>A. blackbergi</i>	femur, metatarsal
	<i>P. texanus</i>	metacarpal
	Moschidae	incisor
	<i>L. ancipidens</i>	tooth

Session II - April 24 -27:

Betsy Carlson (Gainesville)	<i>A. blackbergi</i>	mandible, ectocuneiform; metacarpal
	<i>Nothokemas floridanus</i>	tooth
	<i>P. johnhenryi</i>	tooth
	Canidae	vertebra
Joan Cabreza (Redmond, WA)	<i>A. blackbergi</i>	patella, pisiform
	cf. Mustelidae	femur
	Carnivora	metacarpal, vertebra
	Canidae	vertebra
	Anura	scapula
Bonnie Cronin (Altamonte Spr.)	<i>A. blackbergi</i>	calcaneum

	<i>P. leonensis</i>	tibia, patellae, carpals
	<i>M. gilchristensis</i>	astragalus
	Camelidae	canine, pisiform
Paul Perry (Homosassa Spr.)	<i>A. blackbergi</i>	tooth
	<i>P. leonensis</i>	teeth, femur
	Camelidae	tibia
	cf. <i>Amphicyon sp.</i>	vertebra
	Carnivora	metacarpal
Jewel Pozefsky (Altamonte Spr.)	<i>A. blackbergi</i>	calcaneum
	<i>P. leonensis</i>	mandibles, radius
	<i>N. floridanus</i>	mandible
	<i>M. gilchristensis</i>	cubo-navicular
Barbara Toomey (Sanibel)	<i>A. blackbergi</i>	tarsal
	<i>P. leonensis</i>	teeth, phalanx and a lot of hard clearing work!
Robyn Miller (Jax Beach)	<i>A. blackbergi</i>	humerus, ulna
	<i>P. leonensis</i>	teeth, vertebra, cuboid, phalanges
	<i>Alligator olseni</i>	tooth
	cf. Aves	phalanx
Paulette Stone (Winter Garden)	<i>P. leonensis</i>	mandible, scapula, astragalus
	<i>N. floridanus</i>	tooth
	<i>A. longiramus</i>	metatarsal
	Carnivora	distal fibula
Robert Gessner (Orlando)	<i>A. blackbergi</i>	ulna, femur, patella
	<i>P. leonensis</i>	tooth, radii, tibiae
	<i>P. texanus</i>	metacarpal
	<i>A. longiramus</i>	mandibular condyle
Pat & Larry Ward (Orlando)	<i>A. blackbergi</i>	mandible, radius
	<i>P. leonensis</i>	mandible, teeth
	<i>D. barbouri</i>	ulna
	<i>B. floridanus</i>	humerus
	Carnivora	tooth

Session III - May 1-4:

Griff Jones (Gainesville)	<i>A. blackbergi</i>	phalanx
	<i>P. leonensis</i>	tarsals, carpals, vertebrae, metatarsal
	Artiodactyla	tooth

Scott Stuart (Orlando)	<i>A. blackbergi</i>	tooth, humerus
	<i>P. leonensis</i>	teeth, carpals, metapodials
	Carnivora	metacarpal, vertebra
	Mustelidae	tooth
Jackie Day-Stuart (Orlando)	<i>A. blackbergi</i>	astragalus, phalanx
	<i>P. leonensis</i>	vertebra
Carol Lahy (Winter Spr.)	<i>Anchitherium clarencei</i>	phalanx
	<i>A. blackbergi</i>	humerus
	<i>P. leonensis</i>	teeth
	Artiodactyla	calcaneum
	Carnivora	vertebra
Barbara Blount-Powell (Gainesville)	<i>A. blackbergi</i>	scapula, vertebrae
	cf. <i>Floridatragulus dolichanthereus</i>	mandible frag. w/premolar
	<i>N. floridanus</i>	tooth
Laurie Walz (Gainesville)	<i>A. blackbergi</i>	tooth
	<i>P. leonensis</i>	occipital condyles, calcaneum
	<i>B. floridanus</i>	metapodial
	Artiodactyla	distal fibula
Carol Pooser (Gainesville)	<i>A. blackbergi</i>	calcaneum, phalanx
	<i>P. leonensis</i>	ectocuneiform
	<i>A. longiramus</i>	metacarpal
Graciela Esteban (Argentina)	<i>A. blackbergi</i>	astragalus, metatarsal
	<i>P. leonensis</i>	ulna, navicular, rib
	Artiodactyla	magnum
	Canidae	radius
Sue Dubinsky (Gainesville)	<i>A. blackbergi</i>	metapodials, phalanges
	<i>P. leonensis</i>	tooth, metapodials
	<i>Alligator olseni</i>	osteoderm
Rachel Colbert (Gainesville)	<i>A. blackbergi</i>	radius, phalanx
	<i>P. leonensis</i>	metatarsal, navicular
Leah Blythe (Orlando)	<i>A. blackbergi</i>	teeth, humerus, tibia
	<i>P. leonensis</i>	teeth, maxilla frag. w/ tooth
	Artiodactyla	cuneiform
	Carnivora	canine, phalanx
Ann Bowen (New Port Richey)	<i>A. blackbergi</i>	radius
	<i>P. leonensis</i>	metatarsal
	Artiodactyla	calcaneum

	<i>A. longiramus</i>	phalanx
Jennifer Bowen (New Port Richey)	<i>P. leonensis</i>	humerus, phalanx
	cf. <i>L. ancipidens</i>	mandible frag.
	<i>Pseudemyssp.</i>	costal
Jonathan Bowen (New Port Richey)	<i>A. blackbergi</i>	tibia, carpals
	<i>P. leonensis</i>	tooth, ulna
	<i>Artiodactyla</i>	navicular
	<i>A. olseni</i>	quadratojugal, metapodials
Jeff Stauffer (Fayetteville, NC)	<i>A. clarencei</i>	radius
	<i>A. blackbergi</i>	pelvis, carpals
	<i>N. floridanus</i>	tooth
	<i>P. texanus</i>	tooth
	<i>B. floridanus</i>	astragalus, humerus
Marcia Wright (Winter Park)	<i>A. blackbergi</i>	astragalus, phalanges
	Camelidae	astragalus
	Chiroptera	radius
	Canidae	femur
	<i>A. longiramus</i>	clacaneum

Faithful *Pony Express* Diggers Donate *Mesohippus* Skeleton

Early this summer, Tom and Brian Ahern went on a father-son vacation to Nebraska. In their two weeks they visited several famous fossil museums and localities including the Agate Fossils Beds which contain early Miocene fossils of rhinos, giant pigs, three toed horses, and bear dogs. Boy, does that sound familiar!

In Sioux County, they spent 5 days collecting fossils. During their excursions, they dug up a skeleton of the tiny 30 million year old three toed horse, *Mesohippus*. The horse had been discovered by Tom Ahern and Steve Hutchens, last summer. They found the fossil

embedded in a hard matrix of tuffaceous siltstone, with just a few bones protruding. Looking at the picture they sent along, I think I would have walked right past this little jewel. Many thanks go to Sue and Steve and Tom and Brian for their generous donation.



Tom Ahern and Steve Hutchens making a plaster jacket over *Mesohippus* skeleton. (Photo by Brian Ahern)

Leah Blythe -- Raffle Winner



Leah Blythe (left) is presented with the June 1, 1997 Fossil Horses in Cyberspace raffle prize. (Photo by Erika Simons)

A critical evaluation of our on-line exhibit, Fossil Horses in Cyberspace, was performed from July, 1996, to June, 1997. We asked visitors to our museum and visitors to this web site to answer a few questions that helped us design our virtual exhibition. Those who answered the questionnaire electronically were entered into a raffle.

Congratulations to Leah Blythe, the winner of Fossil Horses in Cyberspace's June 1, 1997, raffle. After one million iterations of our random number generator, Leah's was the winning number. The prize was an expertly cast skull of *Parahippus leonensis*.

Leah is no stranger to the Florida Museum of Natural History. She has participated in the *Pony Express* dig at Thomas Farm sponsored by FLMNH. She told us, "Fossil horses have become extremely interesting to me because of the *Pony Express* fossil dig. It created an interest I didn't have before."

As a teacher in the Orlando school system, she has shared her newfound enthusiasm for fossil horses with her high school students. She notes, "The knowledge that is spread through the museum's activities goes further than just the one individual that participates. It influences so many. Maybe one of my students from Oak Ridge High School will one day be a famous paleontologist due to a program offered by the Florida Museum of Natural History, University of Florida."

Visit Fossil Horses in Cyberspace and watch the exhibit grow! Our new questionnaire will be available soon.

Fossil Horses in Cyberspace: <http://www.flmnh.ufl.edu/fhc/>

MacFadden, Jones, and Portell promoted at FLMNH

In September Bruce J. MacFadden, *Pony Express* project director was promoted to Associate Director of Exhibits and Public Programs at our new museum facility in Powell Hall on the UF campus. In addition to his new duties, this position will allow a continuation, and possible future expansion, of the *Pony Express* program because this program directly relates to our museum's public outreach activities. In June, Douglas S. Jones, Curator of Invertebrate Paleontology, known to many *Pony Express* readers, was promoted to Director of the Florida Museum of Natural History. In September, Roger W. Portell, Collection Manager of Invertebrate Paleontology, and also known to many *Pony Express* readers, was promoted to Chief of Museum Operations at Powell Hall.

Inquiries about the *Pony Express* program should still be directed to Erika H. Simons. For inquiries about the FLMNH Vertebrate Paleontology collection, contact S. David Webb, Curator, or Marc S. Frank, Collection Manager.

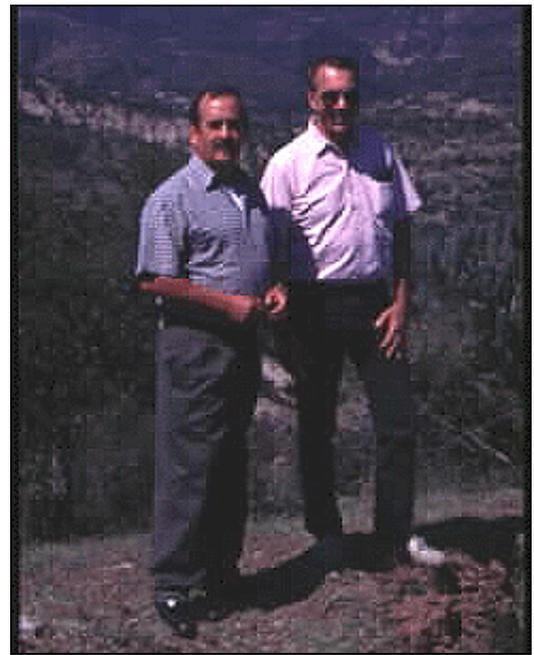
Collecting fossil horses in Mexico

In May I traveled to Mexico where I attended a geological congress in the city of Pachuca (state of Hidalgo), presented a talk on fossil horses from Mexico, toured the paleo lab at the University of

Hidalgo, and participated on a field excursion to collect fossil horses from sedimentary exposures around the beautiful colonial city of San Miguel Allende in the state of Guanajuato.

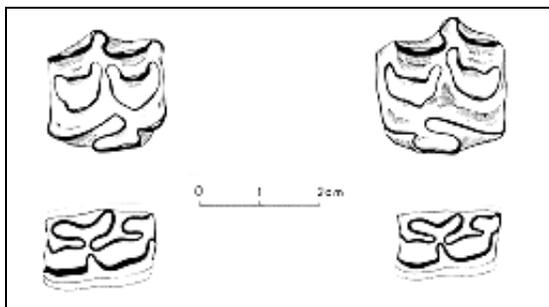
Over the past 25 years, largely as a result of the efforts and direction of Dr. Oscar Carranza-Castañeda, paleontology professor at the University of Mexico and fossil horse expert, the Guanajuato fossil localities have produced a large and very important collection of fossil mammals ranging in age from about 1-6 million years old (late Miocene through Pleistocene age). This region is of particular importance because it is the best place anywhere to study the transition over two million years from the closest ancestor of the modern-day horse, that is to say, the evolution from *Dinohippus* to *Equus*. This region also contains many other late Miocene (about 5 million-year-old) fossil horses that we also find in areas such as the Bone Valley of Florida, including *Nannippus*, *Neohipparion*, *Cormohipparion*, and *Astrohippus*.

It was quite a treat to collect the same kinds of fossil horses in Mexico that we also find from Florida. In about an hour of prospecting I personally collected about a dozen teeth of *Dinohippus*, *Neohipparion*, *Nannippus*, and *Astrohippus*. These teeth are beautifully preserved with gleaming cream-colored cement and dentine and translucent amber-colored enamel. Later that afternoon I discovered a row of teeth eroding out of a bank. Further excavation of this specimen revealed that it was a mostly complete skull of *Dinohippus mexicanus* (which paleontologists believe is the closest ancestor to *Equus*)! While excavating this beautiful specimen, now part of the collections in Mexico, Oscar informed me that in 25 years of collecting Miocene horses around San Miguel Allende, this was the first discovery of a complete skull of *Dinohippus*, or any other species of horse from that area. In all respects this was a most memorable field trip for me and the discovery of the first-known skull of *Dinohippus mexicanus* just made it more enjoyable. (Bruce MacFadden)



Dr. Oscar Carranza-Castañeda (left) and BYU paleontology professor, Wade Miller (right) on May field trip to Mexican fossil mammal localities.

Florida Bone Valley *Astrohippus* Teeth Needed for Scientific Research



Upper molar pattern (top) and lower tooth pattern (bottom) of *Astrohippus stocki*

Along with colleague Nikos Solounias of New York, I am currently studying the diets of different fossil horses from the Bone Valley by analyzing the chemistry (see discussion in *Pony Express* Vol. 3, no.1, page 1) and pattern of scratches (microwear) on the molar teeth. The late Miocene, 5 million-year-old Bone Valley horses (from the central Florida phosphate mines) include *Dinohippus*, *Pseudhipparion*, *Nannippus*, *Neohipparion*, *Pseudhipparion*, and *Astrohippus*. All of these horses have relatively high-crowned teeth, which would suggest that they were all grass-eaters (grazers), yet this is an ecological paradox. Ecological theory dictates that 6 coexisting species would differentiate their diets in order to minimize

competition for food. Thus, in a community of 6 coexisting horse species such as those from the Bone Valley, the high crowned teeth would suggest that they were all grazers, but ecological theory suggests that probably some of these species were grazers, while others were leaf-eaters (browsers),

and yet others were mixed-feeders. These conflicting hypotheses (all species, grazers versus a combination of grazers, mixed feeders, and browsers) can be further tested by chemical analysis and wear patterns, which is just what Nikos and I are currently studying.

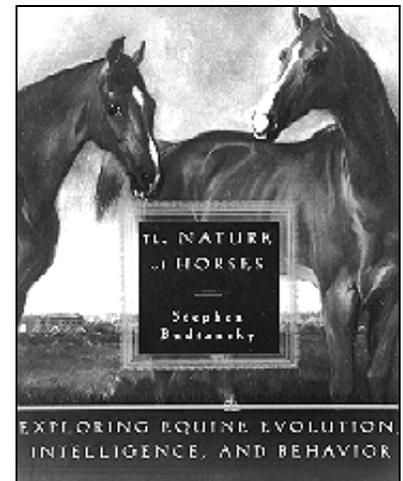
To complete this research we have enough teeth of 5 of the 6 Bone Valley horses, but are lacking sufficient numbers of the exceedingly rare *Astrohippus*. If you have premolar or molar teeth of Bone Valley *Astrohippus* in your collections that you would like to donate to the FLMNH for scientific research, please contact Bruce MacFadden (see page 2 for address). *Astrohippus* is very rare, small (but not as small as *Nannippus*), and has simple enamel patterns on the upper and lower molars (see illustration). Your donations will be gratefully appreciated and will allow us to make considerable progress with our research. (BruceMacFadden)

Planning for the *Pony Express* Western Fossil Adventure

In July I traveled to South Dakota and Nebraska where I made initial plans and preparations for the *Pony Express* Western Fossil Adventure in June 1998. During this trip I visited the Museum of Geology at the South Dakota School of Mines, the Hot Springs Mammoth Site, Big Badlands National Park, all in South Dakota, and the Agate Springs National Monument and Toadstool State Park in Nebraska. This trip also included three days collecting Oligocene mammals and studying the geological exposures of the White River sediments with Steve and Suzan Hutchens in NW Nebraska. This trip convinced me that the *Pony Express* could provide an outstanding week-long educational experience out west and plans are now proceeding for our 1998 trip (see Announcement on page 8 and enclosed brochure). (Bruce MacFadden)

The Nature of Horses: Exploring Equine Evolution, Intelligence, and Behavior

By one account more than 40,000 books have been written on horses. Stephen Budiansky, *Pony Express* "digger" in 1995 and US News & World Report Senior Editor (see his article about the Thomas Farm digs reprinted in *Pony Express* vol. 5, no. 2) has written another contribution to this subject. I believe that Stephen has done a marvelous job with this book. *The Nature of Horses* is very interesting and highly informative. I enjoyed reading it and learned a lot from it. This book covers a broad array of subjects, including horse origins and evolution (and yes, of course, fossils are discussed), one of the best accounts of horse domestication that I have read, horses and human interactions, behavior and horse "sociology," communication, senses (with an excellent discussion of eyesight), movement, physiology, heredity and genetics, and the future of the horse.



Author: Stephen Budiansky.
The Free Press, New York,
290 pages, hardcover, ISBN 0-684-
82768-9, list price \$30
(can be ordered from bookstores)

In all respects this is a beautiful book. It is beautifully designed and produced, has clear and elegant illustrations (including a center section of color plates), and is very well written. Stephen does an outstanding job of synthesizing a tremendously large array of scientific and medical studies of horses and he explains these complex topics in a clear and interesting fashion.

I highly recommend this book to anyone interested in any aspect of fossil or modern horses.

7th Annual Thomas Farm Digs--Spring 1998

Join us again for the highly popular digs at the FLMNH's Thomas Farm fossil preserve where we spend a long weekend excavating 18 million year old fossil horses, learn about fossils and paleontology, and "get away from it all" in a country retreat atmosphere.

Session 1: Thursday evening 16 April through Sunday mid-day 19 April 1998

Session 2: Thursday evening 23 April through Sunday mid-day 26 April 1998

(Session 3 will be held on 30 April to 3 May if there is sufficient demand.)

Cost of this weekend is \$200, with a 10 % discount for prepayment before 31 January 1998 (\$180). Spaces fill up quickly for these digs, so be sure to sign up soon!

New! Western Fossil Adventure Saturday 13 June 1998 through Saturday 20 June 1998

The *Pony Express* is pleased to announce and offer a week-long field trip to western South Dakota and Nebraska where we will tour paleontology museums and national and state parks, and collect Oligocene fossil mammals for the FLMNH from classic "badlands" deposits. This tour will include 8 nights lodgings, transportation during the week-long trip, all admissions to attractions, orientation packet, field supplies, and some meals. Participants will be responsible for transportation to and from Rapid City, South Dakota, some meals, and personal and incidental expenses.

Cost of this trip is \$1,100, with a 10 % discount for prepayment before 31 January 1998 (\$990). This trip will be limited to 10 participants. Spaces on all of these trips will be allocated on a first-come, first-serve basis and are open to anyone 16 years or older (minors require an accompanying parent or guardian). For further information, see enclosed brochure with application form, or contact the *Pony Express* staff at the Florida Museum of Natural History.

Pony Express

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You can receive future issues of the *Pony Express* with a one-time new-member fee of \$20 made payable to the **UF Foundation**

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Editor's email address: esimons@flmnh.ufl.edu

Pony Express--Statement of Purpose:

The purpose of this newsletter is to communicate news and information and disseminate knowledge about fossil horses, particularly in Florida, and to develop a state-wide constituency that will support and enhance the research, exhibition, and educational programs offered at the FLMNH that pertain to fossil horses. Contributions to the Fossil Horse Fund are deposited into an account at the University of Florida Foundation, Inc., a tax-exempt entity, and will be used for the purposes stated here.

Do you travel along the information superhighway?
**The *Pony Express* is now on the World Wide Web via the
Internet URL location:
<http://www.flmnh.ufl.edu/vertpaleo/ponyexpr.htm>**

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Back issues of this newsletter are available at a cost of \$8.00 per volume, or \$3.00 per issue. Issues 1 and 2 of Vol. 1 are only available as photocopies. Other issues, which are available in their original printing, are: Vol. 1, # 3, 4; Vol. 2, # 1-4; Vol. 3, #1-3/4; Vol. 4, # 1 and 2; Vol. 5, # 1 and 2. Please make checks out to UF Foundation and send your request to Erika H. Simons, editor and *Pony Express* Program Coordinator at the above address.

Your contributions keep this highly popular program alive! All contributions at any of the above levels are valued and your support is sincerely appreciated. If your employer has a matching funds program your contribution can work twice as hard.
