

Florida Fossil Horse Newsletter

Volume 3, Number 3/4, 2nd Half 1994

What's Inside?

- [Teaching Paleontology and Geology in South America](#)
 - [Changes to Pony Express-1995](#)
 - [Gary Morgan wins Skinner Prize](#)
 - [Anita Brown in Bolivia](#)
 - [New Fossil Horse Exhibit at FLMNH](#)
 - [Prep Talk](#)
 - [Horse Anatomy--by Brian Ahern](#)
 - [Book Review: The Leisey Volume](#)
 - [Announcements](#)
-

Teaching Paleontology and Geology in South America

Under the auspices of a Fulbright fellowship, this past summer I taught paleontology and historical geology at the University Mayor de San Andres in La Paz, Bolivia. For me it was difficult teaching in another language, but it was very rewarding once I got the "hang of it." The 'eight-week course consisted of two hour lectures and a Saturday lab each week, which totaled 12 contact hours. (Classes were suspended when they conflicted with the world cup soccer games.) We also took a one day field trip (see photo) to nearby fossil localities where we collected 3-million year old extinct mammals that existed in the Andean region just before the Great American Interchange and the formation of the land bridge across Panama (see *Pony Express*, Vol. 3, no. 2). I had 25 undergraduate students from two distinct "carreras" (majors or tracks), biology and geology. Outside of the US undergraduate students are far more restricted in what courses they are allowed to take--a biology student would almost never have the opportunity to take a paleontology course (the latter of which is usually offered in the geology major). Correspondingly, geology students normally had little, or no, exposure to the theory of evolution or principles of classification, which are usually taught in biology.

The students are formal and very respectful (for example, they would never address a professor by their

first name). Cheating is non-existent which I believe relates to the strong Native American (Quechua, Ayamara). heritage-of the students and the extent to which cheating is shunned in those cultures. During the Saturday labs the students stayed for the entire designated, three-hour period and worked non-stop. The students had never had a multiple choice or true-false type of exam (I did this for -several reasons, one of which was that I was afraid that I might have problems reading essays in Spanish!) By the end of the course that no longer was a problem--we compromised with exams that included short answers and essays.



Bruce with university students on field trip to Ayo Ayo in the Bolivian Andes (at 13,000 ft elevation!)

The importance of grades is much less than in the US--students have the opportunity for two possible passing marks. "Aprobación" (Pass) and "Altaprobación" (High Pass, with more than a 90% overall score). Students that do not receive one of these two passing marks receive "Asistencia," an indication of satisfactory course attendance (this is sort of like the "Audit" in our System). The stigma of an "F" does not exist. One of the nicest customs that I experienced in my teaching in Bolivia was the "Clausura," or official closing, of the course. After all, the grades are completed, the class meets with the professor, Chairman of the geology department and Dean of the earth science school. The dean, chair and professor make a few short introductory remarks and then the

students are allowed to comment about the course (they wanted more field trips). Then, a ceremony occurs where Certificates (indicating Pass, High Pass, or attendance) are handed out to each student. After the ceremony, there is a reception in the classroom with wine and hor d'oeuvres. It was a delightful way to close the course.

In August I went to Argentina, where I had been invited to teach a short-course in geology at the University of Buenos Aires. For that course I also had about 25 students, this time they were mostly graduate students in the geology carrera at UBA as well as other students in-paleontology from La Plata (about an hour and a half ride away) and Tucuman (in a northern province). That class consisted of a more intensive series of ten formal lectures in five days and ended with a multiple choice exam.

For me, both courses were immensely rewarding and along with the Fulbright fellowship, provided me with wonderful opportunities to teach geology and paleontology to students from Latin America. Paleontology is alive and of great interest to university students in South America. Both the Bolivians and Argentines have a great public interest in patrimony, which is the awareness of a countries' cultural archaeological, paleontological, and natural historical heritage and' the need to conserve this knowledge for future generations.

Changes to Pony Express-1995

When the *Pony Express* was originally conceived almost three years ago, it was intended to be a newsletter with a finite lifetime--I envisioned 3 to 5 years. The *Pony Express* will continue to be published but effective with volume 4, the number of issues per year will change from 4 to 2 (published during the 1st and 2nd half of the year). The next number (vol. 4, no. 1) will be published in time to announce the Spring fossil dig at Thomas Farm, which we are planning to hold during a weekend in April. If we determine that additional newsletters or announcements are needed, we will adjust our plans accordingly.

The financial status of the Fossil Horse Fund (which supports publication of the *Pony Express* and related

activities) is sound, with a year-end balance of \$4,300. Effective in 1995, we will institute a new policy in which the *Pony Express* will be distributed without mandatory subscription charges to all previous member/subscribers. New members joining in 1995 and thereafter will only be required to pay a one-time \$20 inscription charge. Contributions to the Fossil Horse Fund will be optional and will be at three supporting levels:

- **Contributor (\$20-99)**
- **Friend (\$100-249)**
- **Sustainer (\$250 and up)**

All supporting members will be listed in the second issue of *Pony Express* for 1995. We will reevaluate this new optional donation scheme at the end of 1995 to determine if it is feasible for continuation thereafter.

Gary Morgan wins Morris F. Skinner Prize

Gary Morgan, our former VP Collections Manager of 15 years, was honored during the 54th Annual Society of Vertebrate Paleontology meeting, held in Seattle, as the recipient of the prestigious Morris F. Skinner Prize (see biography of Morris in *Pony Express*, vol. 1, no. 1). This prize is awarded to persons who have

1. made sustained and outstanding collections of fossil vertebrates
2. have served as a mentor and encouraged others to do the same.

Gary excelled in both of these categories. He is a fossil collector extraordinaire, having taken the lead role in excavations of many of our Museum sites during his tenure at the FLMNH (see photo of Gary at the Leisey Pit). Several generations of graduate students benefited from his



Gary Morgan collecting fossil mammals from the extraordinarily rich Leisey Shell Pit near Ruskin, Florida.

enthusiasm and help with their field and museum research projects. We congratulate Gary for the honor and distinction of this prize which he richly deserves.

As many of you know, in the Spring of this year Gary moved to Albuquerque, New Mexico to be with his bride, Mary Ann Joca. Gary has already become involved in the paleontology activities at the New Mexico Museum of Natural History and folks there realize that our loss is their gain. Gary's future plans call for entry into a geology Ph.D. program specializing in, not surprisingly, the study of fossil mammals. We congratulate Gary on his recognition from the Society of Vertebrate Paleontology and wish him the best of luck with his new life and future studies in Albuquerque.

Anita Brown and grandchildren curate Bolivian fossil horse collection

The National Museum of Natural History in La Paz, Bolivia contains a large and very important collection of Pleistocene horses from the Tarija basin of southern Bolivia, a famous locality where fossil mammals have been collected for four centuries. The NMNH-Bol collection from Tarija consists of an extinct species of the modern-day *Equus* as well as two extinct horse genera, all of which dispersed from the north across the Panamanian Land bridge within the past 3 million years during the Great American Interchange.



Anita Brown, charter member of the Pony Express and long time volunteer at the FLMNH, and her grandchildren Will and Mary Catherine Boyett of Gainesville, came to Bolivia in June when Bruce was on sabbatical there. During their stay in La Paz they volunteered over 100 hours to help curate the Tarija horses. Their work included washing and putting back together more than 1,000 fossil specimens and then sorting them into museum trays.

Fossil horse skull and Jaws of extinct species of Equus from Tarija, Bolivia.

One of my goals during my Fulbright was to help the paleontology division at their National Museum of Natural History in La

Paz by curating this wonderful horse collection. Without the help of Anita, Will, and Mary Catherine, I could not have done it. My thanks go out to them for their volunteer activity while in Bolivia.

Fossil horse exhibit at new Museum

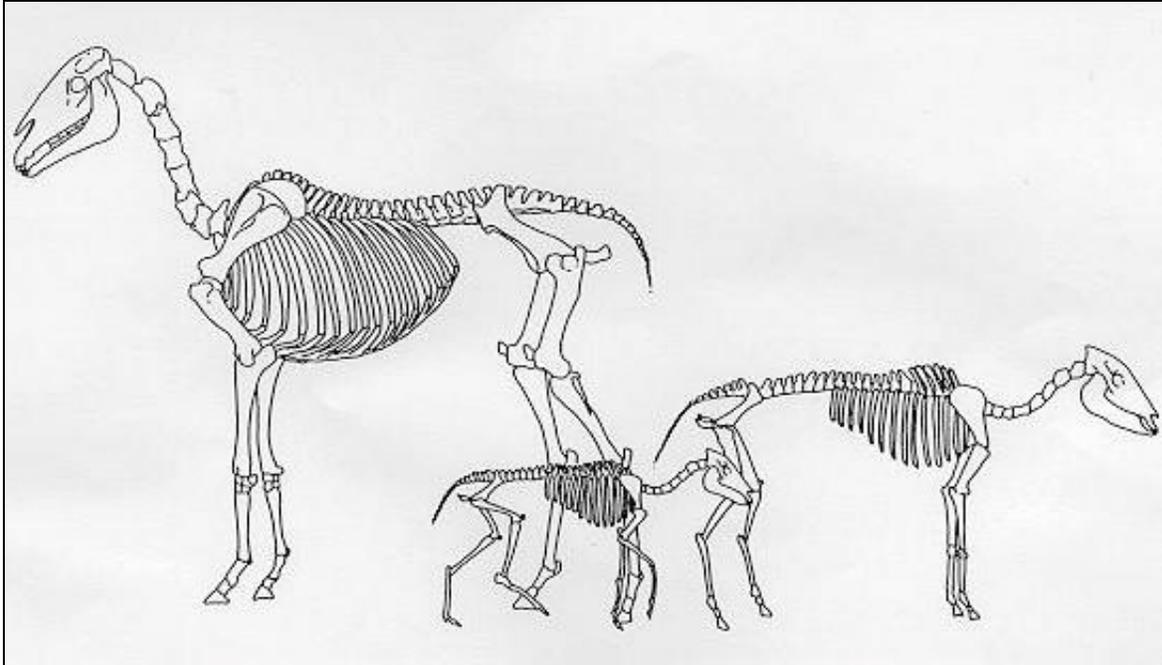
Exciting plans are in place for the new Florida Museum of Natural History Exhibits and Education Center to become part of the Cultural Complex currently including the Harn Art Museum and Performing Arts Center located on the western edge of the University Florida campus along 34th street. The groundbreaking for the new museum will be in April, 1995. When completed, all of the exhibits and educational programs of the FLMNH will move to 34th street and the research programs and collections will remain at Dickinson Hall, the current museum building located near the center of campus.

Plans call for paleontology exhibits to be well represented in the new museum. The current Fossil Studies Center will be expanded and moved to 34th street. There will be a centerpiece skeletal reconstruction of an extinct Pleistocene Florida mammoth (coordinated by Dave Webb) and I will be involved in providing the scientific input and helping design a fossil horse exhibit. My goals for that exhibit include:

1. an awareness and appreciation of the rich fossil record of horses particularly as they occur in Florida,
2. to trace the fascinating 60 million-year evolution and history of the extinct Family Equidae. and
3. to tell about the origins of the modern *Equus*.

Plans for this 200 square foot exhibit will include two new skeletal reconstructions of Florida fossil horses, a Thomas Farm *Archaeohippus* and Leisey *Equus*, to take their places next to our existing skeleton of the extinct, three-toed *Parahippus* (see *Pony Express*, vol. 1 no. 1). As we have discussed in the previous issues of *Pony Express*, this will be the first-ever opportunity to reconstruct a skeleton of the dwarf-horse *Archaeohippus* from anywhere in the world and the first Florida extinct *Equus* to be mounted in a museum exhibit. The *Archaeohippus* skeleton will be constructed from existing specimens in our collections. including some of those collected during the past fossil horse digs at Thomas Farm sponsored by the *Pony Express*.

I would like to involve the supporters of *Pony Express* in providing their input and ideas into this new fossil horse exhibit. Accordingly, I invite you to send me your comments. The planning process for this exhibit will begin in earnest in early 1995, so I encourage you to send along those comments soon!



Equus (left), Parahippus (right), and Archaeohippus (center)

Prep Talk

The best gift a professional ever has to offer the amateur is knowledge. Contrary to the opinion of some, it's safe to say that no professional was ever born with all the knowledge they profess to have, nor did they learn it all in school. The professional's expertise comes from a combination of education, experience, research, and access to information. This last factor, access to information, or more accurately, the lack of access to information, is one of the main complaints that amateurs have, and it certainly contributes to the gulf that often separates the two communities.

Information for the professional community consists of the latest books on topics in the professional's field, in addition to journals, papers, and the exchange of ideas at professional meetings. Information is also about sources. Where does one purchase Butvar, Rhoplex, silicone rubber, adhesives, or a cast of a Saber-toothed tiger skull? Where can you have thin sections made, or a Carbon 14 date performed? Where can you get a copy of an article that appeared in the Society of Vertebrate Paleontology journal, a copy of Alfred E. Newman's master's thesis on fossil seacows, Carroll's Vertebrate Paleontology and Evolution (the paleontologist's bible)? The list of questions is endless, and I know all the answers! Well, that's not quite true, but I will try to pass on some information to you.

By category, I will list informational topics and sources. These may be catalogs, lists of books, libraries in Florida where you can make copies of professional journals, book stores, laboratories that perform certain tasks --- as I said --- the list is endless. I'll continue this effort in future issues and also answer any specific questions on preparation readers may have. (Russ McCarty)

Conservation, Preparation, and Archival Supplies

Conservation Materials, Ltd.

1165 Marietta Way Sparks, NV 89431 (702) 331-0582

An old standby. Conservation tools and chemicals, good source for museum archival and conservation supplies. Call for catalog.

The Darwin Co., Ltd.

6814 South 5th Ave. Tucson, AZ 85706 (602) 294-4977

Paleontology books, equipment, chemicals and other supplies, from air abrasives to Vinek hardener. Great new company focused on the needs of serious paleontologists and rockhounds! Call for catalog.

Paleo Books and Preparation Supplies

PO Box 542 Hot Springs, SD 57747 (605) 745-5446

Glues, tools, and other supplies for fossil hunters, lots of hard to find paleontology books. Call for catalog.

Kingsley North, Inc.

PO Box 216 Norway, MI 49870-0216 1-800-338-9280

Tools, supplies, and equipment for jewelers, craftsmen, lapidary. Hard to find hand and power tools, fabulous catalog! Good prices!

Ward's Earth Science

5100 W. Henrietta Rd. PO Box 92912 Rochester, NY 14692-9012 1-800-962-2660

Need a Brunton compass? Ward's is a fine supplier of books, maps, lab and field equipment for geologists and most other field scientists. Also fossil specimens and casts, and other teaching aids for schools.

Wildlife Artist Supply Company (WASCO)

1306 W. Spring St. PO Box 967 Monroe, GA 30655 1-800-334-8012

Excellent source for epoxy putty (Magic Sculp), maches, and other filler materials used in fossil preparation. Also forms for those who want to sculpt a kryptoceras, and mounting stands, as well as general taxidermy supplies.

Jonas Supply Co.

2260 Industrial Lane Broomfield, CO 80020 1-800-525-6379

Supplier of taxidermy supplies. Jonas mache, when mixed 50/50 with plaster of paris, is a wonderful filler material for big reconstruction jobs.

Horse Anatomy--What is a Cannon Bone, by Brian Ahern

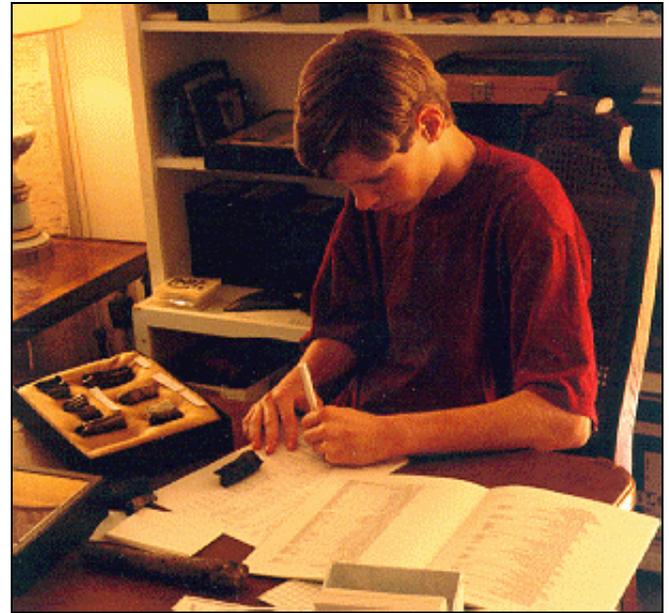
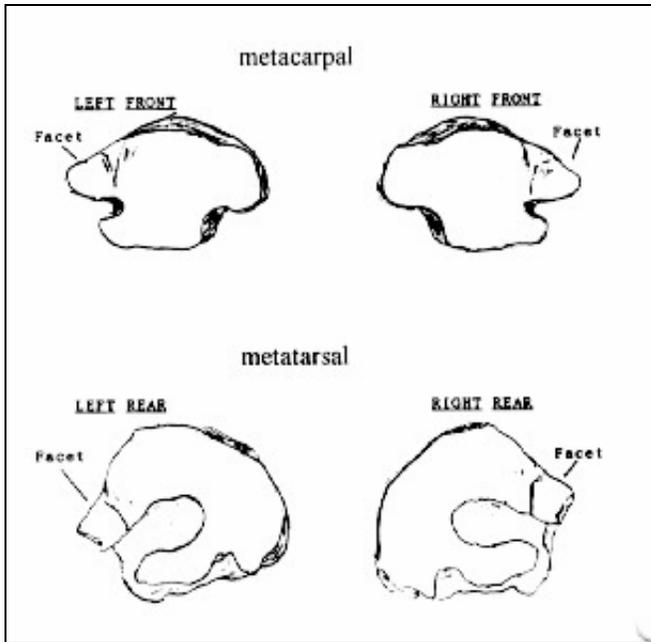
(Editor's note: Brian is a 14 year old fossil enthusiast in the 8th grade at Greco Junior High School in Temple Terrace, Florida. He is a charter member of the Pony Express and has been a junior member of the Florida Paleontological Society for 6 years. He also belongs to the Tampa Bay Fossil Club and the Audubon Society. His main interest is the study of fossil birds, but he also likes to collect and study other vertebrates, including fossil horses.)

While on our fossil hunting trips, my father and I are always excited to find horse material (actually we're excited to find anything). Of particular interest is when someone in our group finds a cannon bone. What is a cannon bone? A cannon bone is the common name given to the metacarpals (finger bones) and metatarsals (toe bones) when they fuse together into one long bone in each limb of an animal.

What are the advantages of having a cannon bone? An elongated cannon bone provides an extension to the limbs, thus allowing the animal to stand taller and run faster. This also increases the animal's ability to see any stalking predators, and lengthens its stride when fleeing predators.

In *Equus*, how can you tell a cannon bone in the front leg from the back leg, and the left from the right? When you hold the proximal (top) end of the cannon bone toward you with the rounded side up, you will note that the proximal end of the metacarpal (front leg) is oval in shape with the bottom flattened. The proximal end of the metatarsal (hind leg) is larger and rounder. (See diagrams below.) Looking at the proximal end of either the metacarpal or metatarsal, you will see that both will have a small facet on

them. If this facet is on the left side then the bone comes from a left limb. If the small facet is on the right side then it's from a right limb.



(Editor's Note: Also see Pony Express, vol. 3, no. 1 for illustration of horse skeleton and position of metacarpals and metatarsals.)

Book Review--Leisey Volume

"Paleontology and Geology of the Leisey Shell Pits, Early Pleistocene of Florida," edited by Richard C. Hulbert, Gary S. Morgan, and S. David Webb, Bulletin of the Florida Museum of Natural History, volume 37, parts I and II, 674 pages total (also see enclosed announcement), \$30.00 plus postage and handling.

For the last two decades the Leisey Shell Corporation has operated several shell pits along Tampa Bay, and draglines occasionally unearthed vertebrate fossils. The spoil piles and quarry walls were periodically explored by several avocational paleontologists. In 1983 a tremendous concentration of fossil bones was exposed. Quarrying in the area ceased, thanks to the cooperation of the owner, C.E. "Bud" Leisey, Jr., and manager, Eric Hunter. In 1984 after meetings among representatives of the Florida Museum of Natural History (FLMNH), Leisey Shell Corporation, and avocational paleontologists a major operation was planned. The owners subsequently transferred ownership of the fossils to the FLMNH. That spring major excavations resumed as a cooperative effort among FLMNH, the Tampa Bay Mineral and Science Club, and Leisey Shell Corporation. The dig has attracted the attention of local, state, and national news media, including a spot on NBC's "Today Show," an article in Newsweek magazine, and a lengthy Sunday feature in the Tampa Tribune.

This volume is printed in two parts, including twenty papers which cover birds, fishes, invertebrates, mammals, plants, and reptiles and amphibians, as well as the taphonomy of terrestrial mammals and geology of this Early Pleistocene site. Several new species are described.

This two-volume set will be published in a limited quantity and therefore will become collector's items. Anyone interested in the definitive work on this fabulous site will want to order this two-volume set for their library.

ANNOUNCEMENTS:

- Effective with the first issue of 1995, the *Pony Express* will be published two times per year and will be distributed to current 1994 supporters in good standing without mandatory dues contributions.
 - Do you travel along the information Superhighway?
If you want to contact Bruce by email you can do so at bmacfadd@flmnh.ufl.edu.
 - Do you have ideas that you would like to see incorporated into a fossil horse exhibit? Now's the time--send Bruce your ideas.
 - ***The fourth Annual Thomas Farm fossil dig will be held in April.*** If you have preferences as to which weekend would be good for you, let us know. We will announce the exact dates in the next *Pony Express* to be published in early 1995.
-

Pony Express

Florida Fossil Horse Newsletter
Volume 3, Number 3/4
2nd Half 1994
ISSN# 1065-285X; Indexed in the Zoological Record

Editorial Staff:

- Bruce J. MacFadden, Editor
- Russell McCarty, Contributing Editor
- Art Poyer, Contributing Editor
- Linda Chandler Managing Editor
- Daniel Cordier, Program Coordinator

Direct all Correspondence to:

Pony Express Department of Natural Sciences
Florida Museum of Natural History
P.O. Box 117800
Gainesville, FL 32611-7800
Phone: 352-392-1721

Deadlines:

Materials for publication should be submitted directly to the editor by February 1st or September 1st for publication in the following issue.

Contributions and Support: All supporters and other horse enthusiasts receive *Pony Express* and invitations to talks, digs, ago other activities that will promote the research, exhibition, and education about Florida fossil horses. Effective in 1995, all supporters will receive special recognition in the 2nd half issue of the newsletter.

Support Categories--1994

- Contributor \$20-99
- Friend \$100-249
- Sustainer \$250 and up

Contributions should be made out to- *Fossil Horse Fund I* and sent to the address listed above

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.

Donations to the Fossil Horse Fund--1994

Sustainers (\$250 and up)

- Babiarz Institute of Paleontological Studies, Mesa, AZ
- Bruce MacFadden, Gainesville
- Tampa Bay Fossil Club, Tampa

Friends (\$100-249)

- Anonymous
 - Jean Auel, Sherwood, OR
 - Mitchell Hope, Nokomis
 - Anita Brown, Lake City
 - Derk Kuyper, Orlando
 - Graig D. Shaak, Gainesville
 - Barbara & Reed Toomey, Sanibel
-