AMERICAN MUSEUM of NATURAL HISTORY

Perissodactyl Collection Improvement Project

Progress Report, Fall 2007

Introduction

Work on the project began in August 2006, when Floor 3 of Building 3A, housing the non-equine perissodactyls (tapirs, rhinos, chalicotheres, and titanotheres) was closed to visitors. Planning of the move of specimens to the newly renovated Floor 6 took place in the Fall of 2006, with the move itself running from January through November 2007. In July and August 2007, a group of four NSF-supported interns carried out specimen housing upgrades, inventory, and electronic data enhancement under the supervision of Division of Paleontology staff. This work is being continued by volunteer workers.

Physical Upgrades

As part of the move a total of 84 substandard three-door storage cabinets and 21 heavy duty storage racks were replaced with new units. The new cabinets were custom fabricated to AMNH Division of Paleontology specifications by Delta Designs Ltd of Topeka, Kansas. A revised floor-plan for the collection of Floor 6 provides improved access to specimens, especially shelved material (fig. 1).

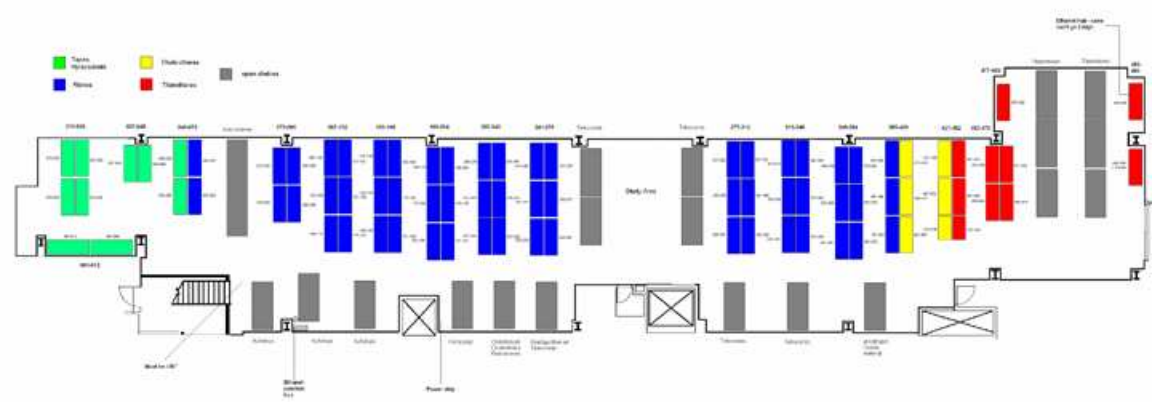

Figure 1. New layout of perissodactyl collection on floor 6. Green cabinets = tapirs; blue cabinets = rhinos; yellow cabinets = chalicotheres; red cabinets – titanotheres; grey = shelving units

Approximately 4,000 drawers of specimens were moved, along with 883 oversized specimens from open shelving. All open-shelved material was cleaned prior to moving, as were 498 drawers of specimens originally housed in open-door cabinets. 870 damaged or substandard wooden specimen drawers were replaced with metal drawers.

Specimen Rehousing

Specimen rehousing is being carried out in a series of successive passes through the collection. On the first pass, which was completed in August 2007, cotton wadding was removed from all specimen drawers, which were lined instead with ¼" thick sheets of Ethafoam™ cut to size (fig 2). Shelved specimens were placed on a ½" layer of Ethafoam with temporary supports made from rolled Ethafoam (these will be replaced by permanent mounts during years 2 and 3 of the project). Subsequent passes will involve lining of specimen trays, replacement of damaged trays, and provision of additional supporting mounts for unstable specimens.

Figure 2. Specimen rehousing activities. Interns John Graf (left) and Nicole Munoz (right) using a template to cut Ethafoam drawer liners and transferring specimens to a lined drawer

Physical Inventory

A drawer-by-drawer physical inventory of all specimens housed in cabinets was undertaken by interns and volunteers working under the supervision of AMNH staff member Ruth O'Leary (fig. 3). Actual specimen locations were checked against those listed in the Division's PaleoCat database. Lists were generated of specimens that were on loan, or missing. Damaged specimens were flagged for later repair by the Division's preparators, while the locations of uncataloged specimens were recorded for future cataloging efforts. As of November 2007, 434 out of 491 doors had been inventoried. After completion of the cabinet inventory, which is scheduled for December 2007, efforts will be focused on an inventory of the nearly 900 specimens stored on open shelving.

Figure 3. Intern Jennifer Anné carrying out specimen inventory

Data Upgrades

Starting in July 2007, as part of the associated upgrades to on-line specimen data associated with the perissodactyl project, interns and volunteers began to research locality data associated with the perissodactyl collection using unpublished information in the AMNH Vertebrate Paleontology Archives. As of November 2007, missing country,

state and county information has been identified and populated for 345 locality names associated with perissodactyl specimens that are stored in the Division of Paleontology's PaleoCat database. This is approximately 20% of the perissodactyl localities. Following completion of this first pass, efforts will be targeted on full georeferencing of localities and the identification and consolidation of duplicate locality names.

In a parallel data enrichment effort, specimen element descriptions are being captured from catalog cards and added to the database records. This far, 1,717 database records have been updated.

Intern Participation

Four interns were recruited to work on the project during July and August of 2007. The interns were Jennifer Anné (Academy of Natural Sciences, Philadelphia), John Graf (Michigan State University), Nicole Munoz (Hamilton College), and Bradley Pearson (Amherst College). During their time in the collection, the interns participated in specimen rehousing, inventories, and data enrichment work associated with the perissodactyl project. The interns also worked on the associated fossil mammal Type specimen rehousing project and were given a series of tours of a number of other departments at AMNH. Reports from the interns can be downloaded from the webpages for the Perissodactyl and Type Rehousing Projects.

Project Outreach

A K-12 teaching fellow, Benjamin Caraballo, was recruited with the assistance of the AMNH Department of Education to work alongside the interns in July and August of 2007. Caraballo, a high school teacher from Astor Collegiate Academy in the Bronx, worked with AMNH Research Associate Matthew Mihlbachler to develop a plan for an interactive web-module on perissodactyl evolution that will address specific Key Ideas in the New York public school curriculum. He also worked with Museum artist Mick Ellison to set up a mobile specimen imaging rig that can be used for the project and to develop imaging protocols for this website.

Figure 4. Mobile imaging rig for specimens (left) and test image of skull of *Paleosyops* (AMNH 1544)

In October 2007 a group of Museum Studies students from New York University was given a tour of the project by the Division's Director of Collections & Archives, Chris Norris, as part of a series of tours of collections arranged through the AMNH's Natural Sciences Conservation Laboratory.

Acknowledgements

Planning and supervision of the move and collection upgrades was carried out by Chris Norris and Jeanne Kelly, with assistance from Steve Warsavage (AMNH Construction & Capital Projects) and Kala Harinarayanan (AMNH Safety Office). The move was executed by staff from Beeco Ltd. Interns and volunteers working on Floor 6 were directed and supervised by Ruth O'Leary. Lisa Elkin (AMNH Natural Sciences Conservation Lab) provided advice on the selection of materials for specimen rehousing. Inventory and rehousing work was carried out by interns Jennifer Anné, John Graf, Nicole Munoz, and Bradley Pearson, and volunteers Victoria Boomsma, Kate Brown, Donna Buonaiuto, Andrew Epstein, Dan Jacobs, and Judy Kittay.

Benjamin Caraballo (Astor Teaching Academy) assisted with the work of the interns and also carried out planning and photography for the forthcoming website on perissodactyl evolution. He was selected and recruited as a K-12 teaching fellow with the assistance of Maritza Macdonald and Jay Homes of the AMNH Department of Education. Research Associate Matthew Mihlbachler (New York College of Osteopathic Medicine) worked with Caraballo to develop content for the site.

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