TRADING PLACES

Solutions to Challenges in Moving a Large Vertebrate Paleontology Collection

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Overview

• Original facility
• New facilities
• Inventory
• Specimen reorganizing and transport
• Unforeseen challenges
• Moving forward
Ruthven Museums Building

- Designed by Albert Kahn
- For both research and public museums
- Opened in 1928
Vertebrate Paleontology Collections

- Approx. 1,000,000 objects
- Converted and expanded crawl space
- No ventilation
- No heating
- No air conditioning
- Remarkably stable temperature and humidity
Biological Sciences Building

- 312,000 gross ft$^2$
- Built for 80 PIs
- Built to LEED Silver +

Units
- Ecology and Evolutionary Biology
- Molecular Cellular and Developmental Biology
- Museum of Paleontology
- Museum of Natural History
Research Museums Center

• Formerly used as a storage building
  • Food for dorms
  • Meat packing
  • Bakery
• Began in 2002
• Renovated by SmithGroup to house collections
  • Mus. of Zoology (dry and wet)
  • Mus. of Paleontology
  • Mus. of Anthropological Archaeology
Research Museums Center

- Shared paleontology open lab
  - 2,280 ft²
- Offices for collection managers and visiting researchers
- Chemical conservation/prep lab
  - 700 ft²
- Mechanical conservation/prep lab
  - 700 ft²
Research Museums Center

• 2 paleontology collections areas
  • Invertebrate
    2,400 ft²
  • Vertebrate and botany
    3,040 ft²

• Separately climate controlled
  • Invertebrate <30%
  • Vertebrate ~47%

• Highest drawers 15 ½ feet
Research Museums Center

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Inventory

• Collections organized both stratigraphically and systematically
• Document every specimen number in every drawer
• Few unknown specimens
Drawer Photography

- Document condition for move
- Logs unnumbered specimens
- Searchable database
- Easily determine if specimen is fit for purpose
- Assist in finding specimens
  - Split between two locations
Custom Cradles

- Archival materials
  - Corrugated polypropylene
  - Thermally bonded polyester batting
  - Tyvek
  - B-72 adhesive
  - Hot glue
- Sturdy
- Specifically customized
- Inexpensive
- Versatile
Custom Cradles
Custom Cradles
Custom Cradles
Custom Cradles
Mega Cradles

- Same material cushioning as box cradles
- Virgin food grade high density polyethylene
- Very stable pigment
Specimen
Reorganizing

• Problems
  • Over cluttered drawers
  • Improper housing
  • Disorganized
  • Stacked

• Solutions
  • Split drawers
  • Cradling
Specimen Reorganizing
Specimen Reorganizing
Drawer Transport

- Drawers packed with PIG Mini-Mizer Absorbent Socks and bubble packs
  - Socks filled with sawdust
  - Void fill
- Wrapped with plastic wrap
- Shipped in truck in transport cabinets
Large Specimen Transport

- Adjustable aluminum armature
- Polyethylene padding
- Removable oriented strand board walls
- Fits perfectly over palates
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Downward Drawer Deflection

- Hazardous to specimens
- Hazardous to people
- Could damage drawer glides
- Corrected for latter half of drawers
Downward Drawer Deflection

- Prosthetics
- 800 μm adhesive backed ultra high molecular weight polyethylene
  - Coefficient of friction similar to Teflon
  - Higher abrasion resistance than carbon steel
Moving Forward

- Upcoming database migration
  - Specify
- Integrate inventory and drawer photography
QUESTIONS?
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