

# GIGA **PANNING FOR GOLD** EN- MANTLED GROUND SQUIRRELS



**Andrew Doll**

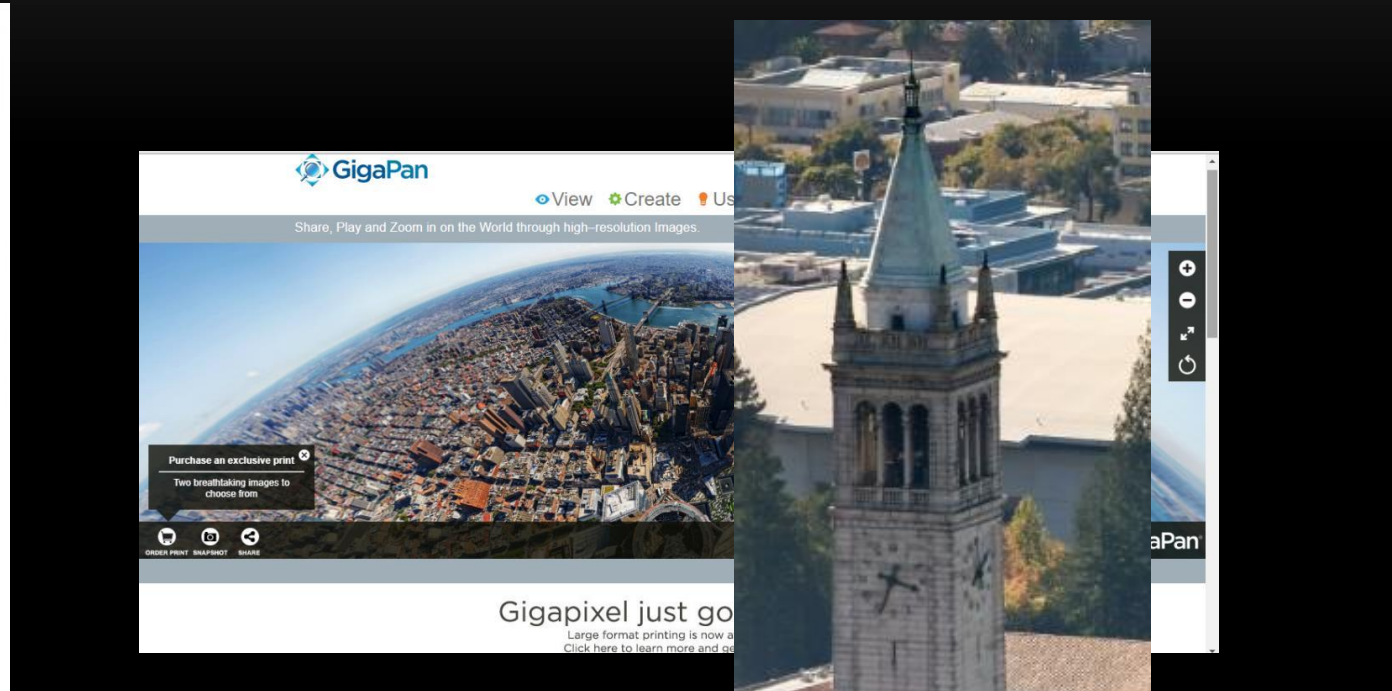
**John Demboski, Garth Spellman, Jeff Stephenson**



DENVER MUSEUM OF

**NATURE & SCIENCE**

# WHAT'S A GIGAPAN?



• San Francisco Bay Area View by Artem Chubaryan



# INSPIRATION

ZooKeys 209: 115–132 (2012)

doi: 10.3897/zookeys.209.3083

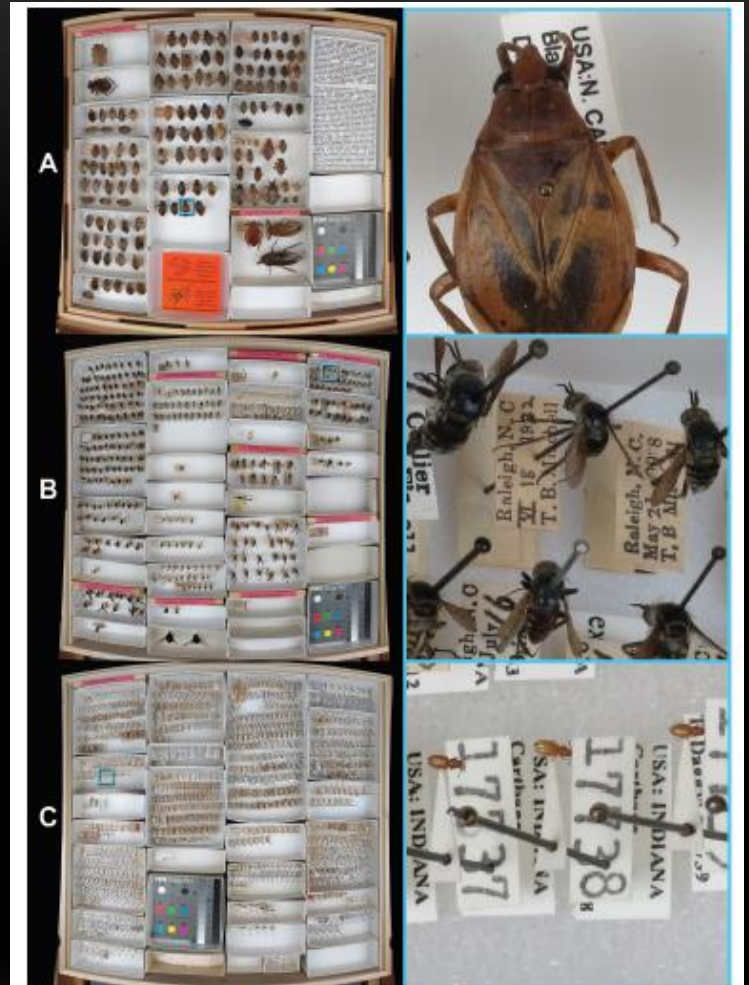
www.zookeys.org

RESEARCH ARTICLE

A peer-reviewed open-access journal  
**ZooKeys**  
Launched to accelerate biodiversity research

## Results and insights from the NCSU Insect Museum GigaPan project

Matthew A. Bertone<sup>1</sup>, Robert L. Blinn<sup>1</sup>, Tanner M. Stanfield<sup>1</sup>, Kelly J. Dew<sup>1</sup>,  
Katja C. Seltmann<sup>2</sup>, Andrew R. Deans<sup>1</sup>



**Figure 4.** Examples of typical drawers, showing larger specimens, average specimens, and smaller specimens (A, B & C, respectively). Left – full drawer images; Right – zoomed to full resolution. **A** Belostomatidae 1 (<http://gigapan.org/gigapans/96136>) **B** Bombyliidae 5 (<http://gigapan.org/gigapans/89195>) **C** Silvanidae 2 (<http://gigapan.org/gigapans/95947>)

# DMNS - ZOOLOGY

- Entomology – 1.07M
- Arachnology – 60K vials
- Ornithology – 50k
- Marine Invertebrates –  
45k lots
- Mammalogy – 20k
- Oology - 7000
- Herpetology – 400
- Botany – 4k
- Parasite – +2K

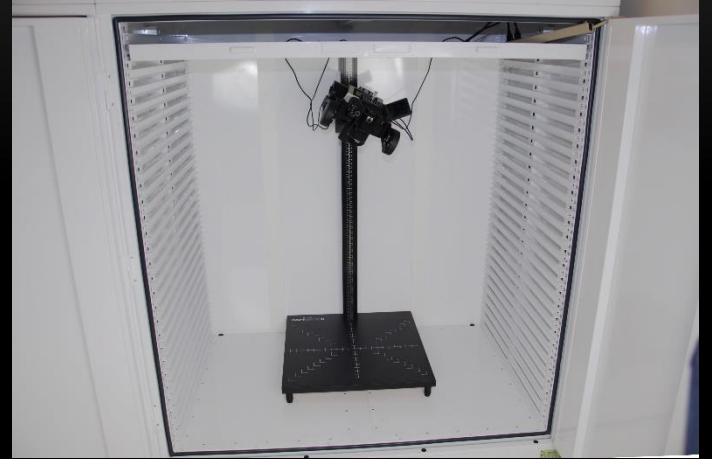
# AVENIR COLLECTIONS CENTER

- Opened 2014
- 64,000 sqft – Zoology: ~10,000 sqft
  - Climate Controlled
  - New Cabinetry
  - Restricted Access (pests)
- Opportunity to Reorganize and Uncrowd



# EQUIPMENT SETUP

- Bencher Copymate II
- Canon EOS Rebel T5i 18.0 MP DSLR Camera
- Interfit Super Cool-lite 9 MKII (x2)
- GigaPan Epic Pro
- iMac – 27 in with Retina 5K
  - Adobe Photoshop & Lightroom
  - 5T external hard drive (x2; parrallel backups)













C30547

Bowles

DEHNER

47  
48  
49  
50

43  
44  
45  
46  
47  
48  
49  
50



♂  
Floridaensis  
MUSEUM OF NATURAL HISTORY  
25523  
Otus a. Tyre, La.  
Chenier au Tyre  
May 28, 1847



Small handwritten tag with a red circular stamp and illegible text.

Site and Skull  
Beverly Mountain 2010  
2 mi. N of Nederland, Colorado  
Colorado: Archuleta Co.,  
Nederland, Silver  
10000 ft  
8/10/10  
P.O. Box 204 - 146, CO



2170  
Beverly  
Beverly Mountain, Archuleta Co., Colorado  
8/10/10



Small handwritten tag at the tail of the specimen.

Small rectangular label with text: "Site and Skull", "Beverly Mountain 2010", "2 mi. N of Nederland, Colorado", "Archuleta Co., Nederland, Silver", "10000 ft", "8/10/10", "P.O. Box 204 - 146, CO".





40922 DENVER MUSEUM OF NATURAL HISTORY  
Centropus viridis  
Colorado: Gunnison, 13.2 km S. of Farlin  
10 May 1993  
C. E. BRAUN



40922 DENVER MUSEUM OF NATURAL HISTORY  
Centropus viridis  
Colorado: Gunnison, 13.2 km S. of Farlin  
10 May 1993  
C. E. BRAUN





23273 COLORADO MUSEUM OF NATURAL HISTORY  
*Vireo g. swainsoni* <sup>M.P. 19</sup> ♂  
May 8, 1941 Oracle, Pinal Co., Ariz.

♂  
♂



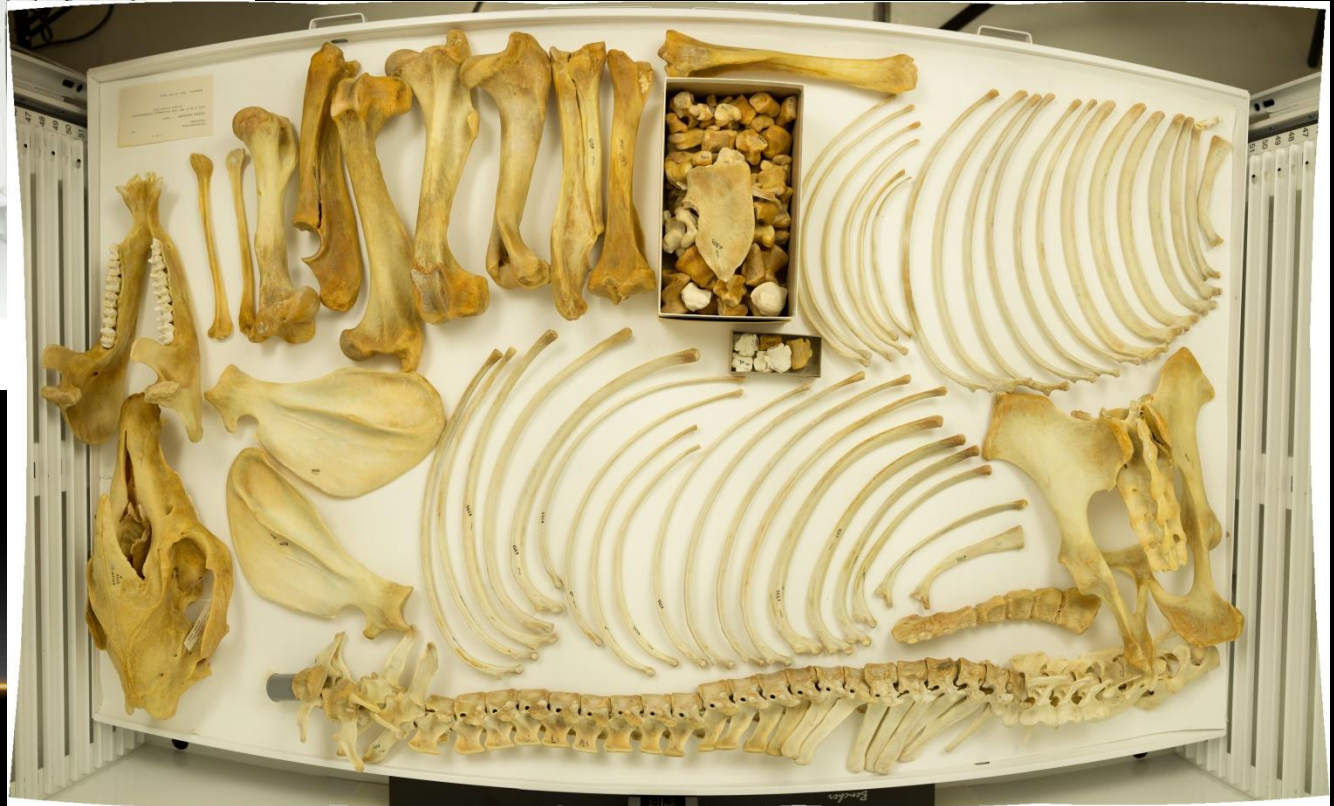
2M.11A03 DENVER MUSEUM OF NATURAL HISTORY  
*Spermophilus lateralis*  
SB (tissues, baculum) 28 July 2008

Denver Museum of Natural History  
*Spermophilus lateralis*  
2M.11A03  
Spermophilus lateralis  
28 July 2008  
SB (tissues, baculum)

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2M.11A03  
Spermophilus lateralis  
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*Spermophilus lateralis*  
2M.11A03  
Spermophilus lateralis  
28 July 2008  
SB (tissues, baculum)







# ACCESSIBILITY

- **Arctos**
  - >3 million record from natural and cultural history collections
  - anthropology, botany, entomology, ethnology, herpetology, ichthyology, mammalogy, ornithology, paleontology, parasitology

<http://arctos.database.museum/guid/DMNS:Bird:12419>

The screenshot shows the Arctos web interface. At the top, there is a navigation bar with the Arctos logo, the title "Collaborative Collection Management Solution", and a search bar. Below the navigation bar, there are several search filters and options. The main search area includes a "Search" button, "Clear Form", "Use Last Values", and a dropdown menu for "See results as:" set to "Specimen Records". There are also dropdowns for "Type" (set to "any") and a checkbox for "Require Tissues?". The search results are displayed in a table with columns for "Identifiers", "Identification and Taxonomy", "Locality", "Date/Collector", "Specimen Record", "Usage", "Media", and "Relationships". Each column has a "Show More Options" link. On the right side, there is a sidebar titled "Try something random" with a "Hide" button. It features a "This" button and a "on this day..." section with a small image of a map. Below the image, there are several links to scientific publications and records, including "V. Haukialmi, L. M. Wickström, J. Hantula, H. Henttonen. 2001. Taxonomy, genetic differentiation and Holarctic biogeography of *Paranoplocephala* spp. (Cestoda: Anoplocephalidae) in collared lemmings (*Dicrostonyx*, Arvicolinae). *Biological Journal of the Linnean Society* 74:171-196.", "MSB:Host:21321 *Gyraulus corinna* UAM:Arc:UA2015-068-00385 *Gadus macrocephalus*", "CUMV:Bird:51921 *Tachycineta bicolor*", "Schawaller, W. 1998. Revision of the genus *Lyrosoma* Mannerheim, 1853 (Coleoptera, Agyrtidae). *Entomologische Blätter* 94: 127-133", and "Phylogeographic study on the Mediterranean amphipod *Blanus* Ernesto Recuero, Iñigo Martínez-".



- [Data Providers](#)
- [Report a bug or request support](#)
- [View in mobile site](#)

DMNS:Bird:12419

*Amazona aestiva xanthopteryx*

San Salvador  
South America, Paraguay, Guaira  
27 Aug 1925

skin, study

Report Bad Data [0][0]

DMNS Birds

<< Return to results  
get a DOI

first prevnext last  
Record 1 of 16

Identification Accn Locality Agents Parts Part Locn. Attributes Other IDs Media Encumbrances

Identifications

[Amazona aestiva xanthopteryx](#)

Animalia; Chordata; Aves; Psittaciformes; Psittacidae; Arinae; Amazona aestiva xanthopteryx

Identified by Garth M. Spellman

Nature of ID: expert

Collector(s)

[Frederick G. Brandenburg](#)

Identifiers

collector number: FGB241

Location (1 Events) [ expand ]



[BerkeleyMapper](#)

Determination Type: collection  
assigned by John R. Demboski on 2011-12-14

Higher Geography: South America, Paraguay, Guaira [more](#)

Verbatim Locality: no verbatim locality recorded

Specific Locality: San Salvador

Collecting Source: wild caught

Event Date: 1925-08-27

Verbatim Date: 27 Aug 1925

Verification Status: unverified [Define](#)

Coordinates: -25.9395247234 / -56.4696000898  
Verbatim Coordinates: -25.9395247234/-56.4696000898  
Datum: World Geodetic System 1984  
Error: 10000 m  
Georeference Source: GeoLocate  
Georeference Protocol: GeoLocate

Parts

Part Name	Condition	Disposition	Qty	Label	Barcode	PLPath	Loan	Remarks
skin, study	unchecked	unknown	1					

Attributes

sex: male  
unknown, 1999-10-21

Entered By: Dusty L. McDonald on 2010-05-20  
Last Edited By: UAM on 2018-05-19

Accession

Edit [0000](#) or View [0000](#)

Tagged in Media



Media

Showing Media results 1 - 2 of 2 [ [view details](#) ]

[Media linked to this Specimen.](#)



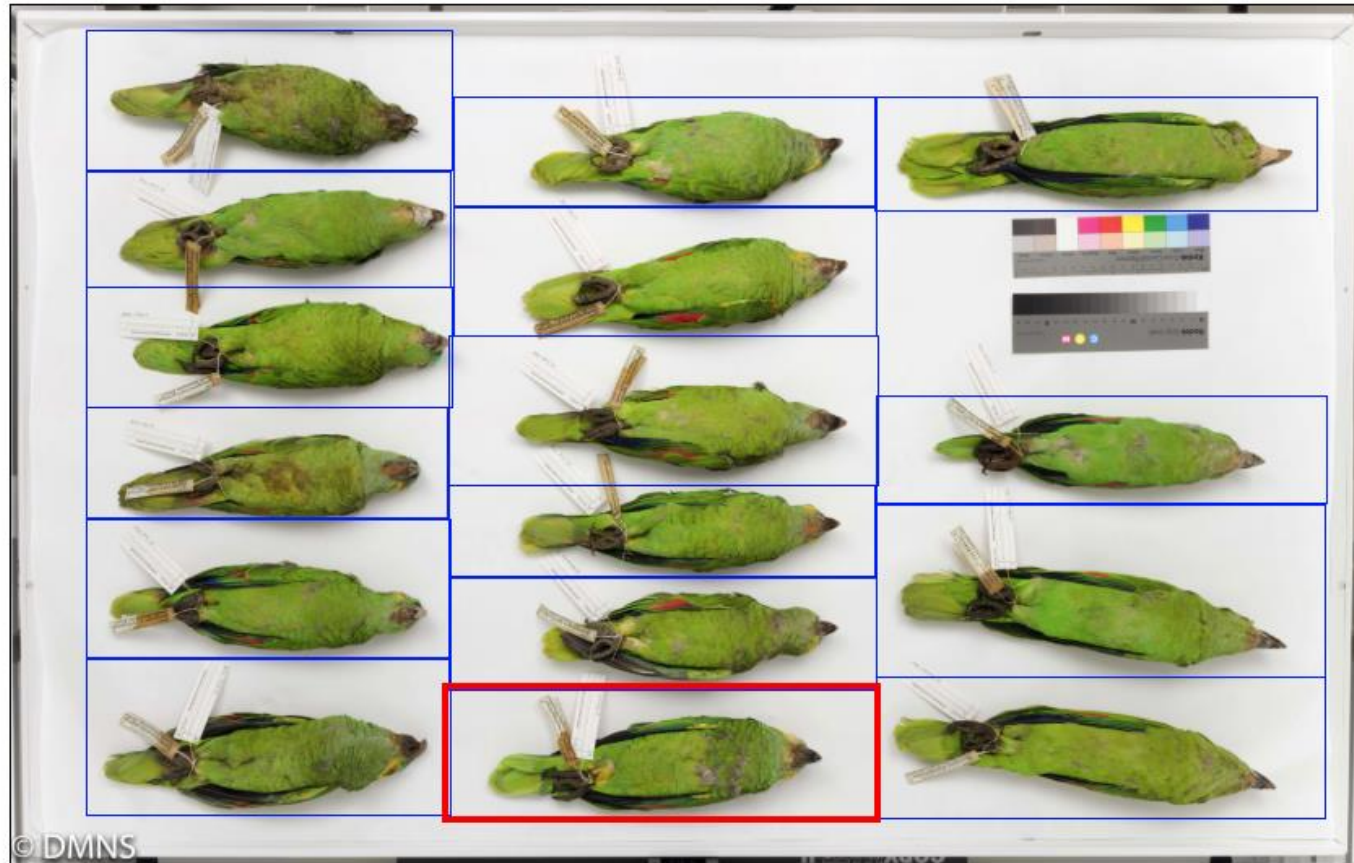
image (image/jpeg)  
[Media Details](#)  
[DMNS](#)

[Amazona\\_sp\\_C214S23110...](#)



image (image/jpeg)  
[Media Details](#)  
[DMNS](#)

[Amazona\\_sp\\_C214S23\\_11...](#)



TAG Type: cataloged_item Reference: <a href="#">DMNS:Bird:12459</a>
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TAG Type: cataloged_item Reference: <a href="#">DMNS:Bird:18322</a>
TAG Type: cataloged_item



7219  
Amazona aestiva xanthopteryx  
S. L. Gardner  
12419

DINWIDIE MUSEUM OF NATURAL HISTORY  
Amazona aestiva xanthopteryx  
27 August 1925

# SUMMARY

- Systematically completed 2 rows (24 cabinets) of mammal collection
    - ~1350 total drawers with specimen, we've shot ~190 drawers (~14%)
  - Opportunistically photographed 20 drawers out of 1900 bird drawers
    - Undergoing re-organization
  - Pitfalls:
    - Active collections (incoming material – reorganizations)
    - Specimens of varied heights
    - Labor/time intensive
-

# ACKNOWLEDGEMENTS

- Donors:

- Ed & Pat Martin



- Volunteer Photographers:

- Dean Linenberger

- Earl Roper

- Scott Ryberg

