

Introduction to Arctos

Arctos is a multidisciplinary information system that provides access to a vast catalog of natural history information. The public web presence is designed to facilitate collection usage and integrate natural history data with other web services. Arctos is used by scientists, educators, collection managers, curators, amateur naturalists, and anyone interested in exploring collection records.


Key features include applications for collection management and object tracking, tools and services for data visualization and mapping (e.g., using BerkeleyMapper, BioGeomancer), and partnerships with external web resources (e.g., GenBank, Texas Advanced Computing Center) to link records with associated data and media. Arctos code is open source, and users form a strong community that contribute to data standards, application enhancements, and improved data quality through sharing of authorities for taxonomy, geography, people names, part types, and other data.

Arctos can be accessed at:

<http://arctos.database.museum/>

From this site you can search for museum specimens by species, locality, date, collector, and other search criteria. Many of the records have additional information associated with them, such as parasites collected from the specimen, measurements of the specimen, geographic latitude and longitude and specimen images. Below is a screen capture of the search page of Arctos.

Specimen Search

 **Arctos**
Multi-Institution, Multi-Collection Museum Database

Search My Stuff About Arctos

Access to 1386256 records Holdings Details

Search Clear Form Use Last Values See results as: Specimen Records

Include Observations? Require Tissues? Require Media:

Identifiers Customize Show More Options
Collection: All Number:

Identification and Taxonomy Show More Options
Any Taxonomic Element:

Locality Show More Options
Any Geographic Element: [Select on Google Map](#)

Date/Collector Show More Options
Help Collector

Biological Individual Show More Options
Part Name: Define Add = for exact match


Usage Show More Options
Basis of Citation: Define

Search Clear Form Use Last Values See results as: Specimen Records

ARCTOS

After you familiarize yourself with Arctos, you can change and refine your search by clicking the “Show More Options” in the top right corner of each section. For example, you can search only one of the collections for specimens of one species, collected by a certain person in a certain time frame, from a particular state. For now, follow the steps below just to see how Arctos works.

1. Go to the Arctos website, <http://arctos.database.museum/>
2. Leave all the fields at their default, except in the second section down, Identification and Taxonomy, type **chipmunk** in the field for Any Taxonomic Element. Hit the Search button in the bottom left corner.
3. You should retrieve 7156 records, in a table that looks like this:



Arctos
Multi-Institution, Multi-Collection Museum Database

Search My Stuff About Arctos

6345 of these 7156 records have coordinates and can be displayed with [BerkeleyMapper](#) [BerkeleyMapper+Rangemaps](#) [What's this?](#) [Google Data](#)

Records... 1 - 20 Order by... collection ...then order by collection [Customize Form](#) [Download](#) [Save Search](#)

Cat Num	Identification	Specific Locality	Verbatim Date	Dec. Lat.	Dec. Long.
DGR Mammals 10002506	Tamias dorsalis	Valles Caldera	13 Jul 2005		
DGR Mammals 10002525	Tamias minimus	Valles Caldera	10 May 2006		
DGR Mammals 10002529	Tamias minimus	Valles Caldera	11 May 2006		
DGR Mammals 12099	Tamias quadrivittatus	NW of Springerville, along US 191 at milepost 392.6	25-Jun-1982	34.2144444444	-109.3323611111
DGR Mammals 10002561	Tamias minimus	Valles Caldera	13 Jul 2006	35.887148738	106.5819482
DGR Mammals 10002692	Tamias minimus	Valles Caldera	29 Sep 2006		
DGR Mammals 10002897	Tamias minimus	Valles Caldera, Redondo Canyon	7 Sep 2006	35.8848	-106.5846
DGR Mammals 10002551	Tamias minimus	Valles Caldera	19 May 2006		
DGR Mammals 10002565	Tamias minimus	Valles Caldera	10 Aug 2006	35.887659457	106.582752819
DGR Mammals 10002642	Tamias minimus	Valles Caldera, Redondo Canyon	8 Sep 2006	35.8848	106.5846

As you can see, the default information displayed is the catalog number, species, locality, date, and decimal degrees (latitude and longitude).

4. To narrow our search, go back to the search page by clicking the “Search” in the top left of the screen, just under the bear.
5. This time, let’s look for chipmunks collected in New Mexico that had parasites. Do the search with the following criteria:
 - a. Change the collection to **DMNS Mammals** from the drop box under the Identifiers section
 - b. in the Identification and Taxonomy section, enter **Tamias** (the genus for chipmunks) in the Any Taxonomic Element field
 - c. in the Locality section, enter **New Mexico** in the Any Geographic Element Field
 - d. in the Date/Collector section, change the dropdown menu to **Preparator** and in the field type in

Bell

Your fields should look like this:

Identifiers Customize Show More Options	
Collection:	DMNS Mammals <input type="text" value="Number:"/>
Identification and Taxonomy Show More Options	
Any Taxonomic Element:	Tamias
Locality Show More Options	
Any Geographic Element:	New Mexico Select on Google Map
Date/Collector Show More Options	
Preparator:	Bell
Biological Individual Show More Options	
Part Name:	<input type="text"/> <small>Define Add = for exact match</small>
Usage Show Fewer Options	
Basis of Citation:	<input type="text"/> <small>Define</small>
Media Type:	<input type="text"/> <small>Define</small>
Contributed by Project:	<input type="text"/>
Used by Project:	<input type="text"/>
Project Sponsor:	<input type="text"/>
Search Clear Form Use Last Values See results as: Specimen Records <input type="text"/>	

- Click the search button again.
- This time you should retrieve a much smaller number of records. There are 30 chipmunks collected in New Mexico prepared by someone with the last name Bell.
- In the top left hand corner of the screen, under **Records . . .** change the drop down so that records 1-30 are displayed.
- Now click on the blue “Customize Form” button in the middle on the top of the table. A window will pop up.
- Under “Locality”, click the box for **county** and scroll down that window and click the box for **state_prov**. Under “Random” click the box for **collectors** and **parts**.

Customize results and downloads. Excessive options adversely affect performance. Close and Refresh
Close Without Refresh

Rows Per Page: 20 Row-Removal Option: No

Locality [check all] [check none]	Random [check all] [check none]	Attributes [check all] [check none]
<input type="checkbox"/> elev_in_m	<input type="checkbox"/> day_of_ymd	<input type="checkbox"/> SNV_results
<input type="checkbox"/> original_elevation	<input type="checkbox"/> accession	<input type="checkbox"/> abundance
<input type="checkbox"/> continent_ocean	<input type="checkbox"/> began_date	<input type="checkbox"/> age
<input type="checkbox"/> coordinateuncertaintyinmeters	<input type="checkbox"/> citations	<input type="checkbox"/> age_class
<input type="checkbox"/> county	<input type="checkbox"/> coll_obj_disposition	<input type="checkbox"/> appraised_value
<input type="checkbox"/> datum	<input type="checkbox"/> ended_date	<input type="checkbox"/> axillary_girth
<input type="checkbox"/> feature	<input type="checkbox"/> family	<input type="checkbox"/> body_condition
<input type="checkbox"/> geology_attributes	<input type="checkbox"/> id_history	<input type="checkbox"/> body_width
<input type="checkbox"/> habitat	<input type="checkbox"/> id_sensu	<input type="checkbox"/> breadth
<input type="checkbox"/> island	<input type="checkbox"/> identified_by	<input type="checkbox"/> bursa
<input type="checkbox"/> island_group	<input type="checkbox"/> media	<input type="checkbox"/> carapace_length
<input type="checkbox"/> lat_long_determiner	<input type="checkbox"/> othercatalognumbers	<input type="checkbox"/> clutch_size
<input type="checkbox"/> lat_long_ref_source	<input type="checkbox"/> partdetail	<input type="checkbox"/> clutch_size_of_nest_parasite
<input type="checkbox"/> lat_long_remarks	<input type="checkbox"/> parts	<input type="checkbox"/> colors
<input type="checkbox"/> orig_lat_long_units	<input type="checkbox"/> phylorder	<input type="checkbox"/> crown_rump_length
<input type="checkbox"/> quad	<input type="checkbox"/> preparators	<input type="checkbox"/> curvilinear_length
<input type="checkbox"/> sea	<input type="checkbox"/> remarks	<input type="checkbox"/> diploid_number

Scroll down here for the box for **state_prov**

- Click “Close and Refresh” in the top right corner of the window.
- You now have a lot more information about each specimen. Look in the **Parts** section for parasites, some of the specimens will have “parts” that are ectoparasites and/or endoparasites. How many of these specimens had endoparasites collected with them?

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30 of these 30 records have coordinates and can be displayed with [BerkeleyMapper](#) [BerkeleyMapper+Rangemaps](#) [Google Earth/Maps](#)

Cat Num	Identification	Collectors	State	County	Specific Locality	Verbatim Date	Parts
DMNS Mammals 11425	<i>Tamias canipes</i>	Kayce C. Bell	New Mexico	Lincoln County	Sierra Blanca (White Mountains), FR127A, 0.3 mile northwest of junction with NM Highway 532	22 April 2008	liver (frozen) liver (frozen) study skin ectoparasite(s) (ethanol) osclitoris skeleton heart, kidney, spleen (frozen)
DMNS Mammals 11821	<i>Tamias quadrivittatus</i>	John R. Demboski Kayce C. Bell	New Mexico	Cibola County	Zuni Mountains, FR180	07 September 2008	liver (frozen) liver (frozen) study skin ectoparasite(s) (ethanol) skeleton os clitoris heart, kidney, spleen (frozen)

- This is just an example of what you can find in Arctos, but there is much more information you can explore. Try doing searches using different search criteria and change the fields you might like to explore.