Southwest Collections of Arthropods Network (SCAN)
A Data Portal Built to Visualize, Manipulate, and Export Species Occurrences
July 2012 to 2016 and onward to 2024

Symbiota Collections of Arthropods Network (SCAN)
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SCAN Digitization Goals

1. 10 museums digitize **750,000 records** for Southwest ground-dwelling arthropods,

   >1,100,00 with 4 existing PEN projects.

2. Produce **16,000 high-resolution images** of species

SCAN Progress

1. Exceeded target (**2,650,764** digitized records) **80**% georeferenced, 53% identified to species
2. **65** non-ADBC funded collections, **1,040,293** digitized records
3. **267,858** images **55,858** high-res images, **212,000** specimen/label low-res images
4. **1** PEN grant funded 2017, **2** PEN proposals in review, 9/10 of original TCNs sustaining effort .
5. SCAN primary aggregator of North American arthropod data, InvertEBase primary aggregator of non-Arthropod data. Allows SCAN to provide framework for all Entomology data providers in North America.

Opportunities to Use Digitized Data for Arthropod Research:

❖ **Focus on North America – United States > Mexico > Canada**

❖ **14 million total arthropod records, > 50,000 records per week**

> Only 242 million more to go!!!
> At least 10 million "Climate Change" reference records sitting in drawers

❖ **Five Target Groups: 4,920 species can be modeled today!**
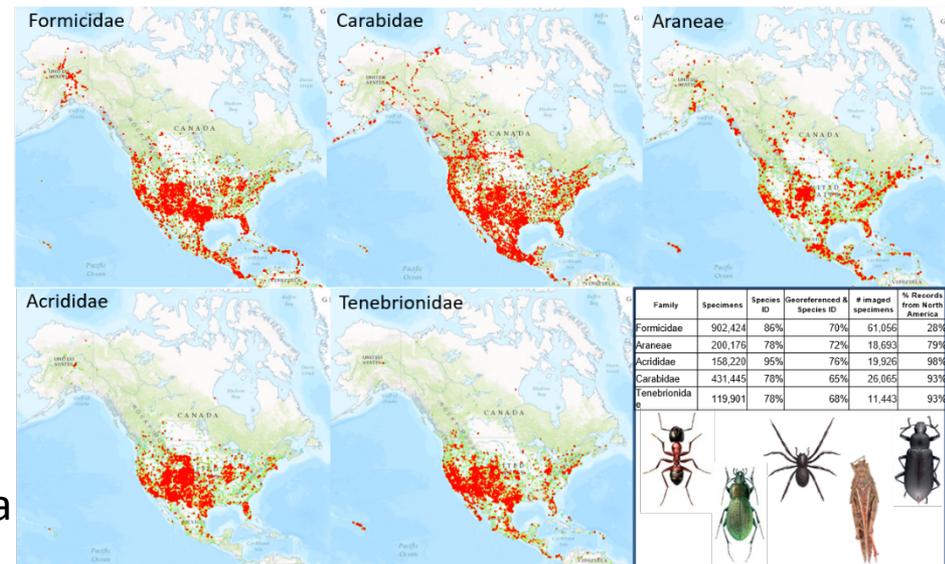
(30 records per species)

Formicidae (Ants)- 1,476 taxa

Araneae (Spiders) – 937 taxa

Acrididae (Grasshoppers) – 355 taxa

Carabidae (Ground beetles)- 1,476 taxa

Tenebrionidae (Darkling beetles) 486 taxa

Family	Specimens	Species ID	Georeferenced & Species ID	# imaged specimens	% Records from North America
Formicidae	902,424	86%	70%	61,056	28%
Araneae	200,176	78%	72%	18,693	79%
Acrididae	158,220	95%	76%	19,926	98%
Carabidae	431,445	78%	65%	26,065	93%
Tenebrionidae	119,901	78%	68%	11,443	93%

SCAN 2017-2018 Priorities

1. Increase efficiency

   A. Universal "Rapid digitization of incoming material"

   B. solutions for robotic digitization, beyond the "Beyond the Box"

2. Data Quality: Integrate GBIF & IDigBio data flags, taxonomy tables, genetic linking, > images

3. Promote more digitization

   A. 103 US Entomology museums not serving data (66%)

   B. Support new TCNs: Arthropod Vertebrate Parasites TCN (Zaspel)

4. Connect Paleontology-Neontology taxa & the general Entomological Community beyond the United States