

Home Search Images Fauna Projects Statistics Other Networks Symbiota Contact

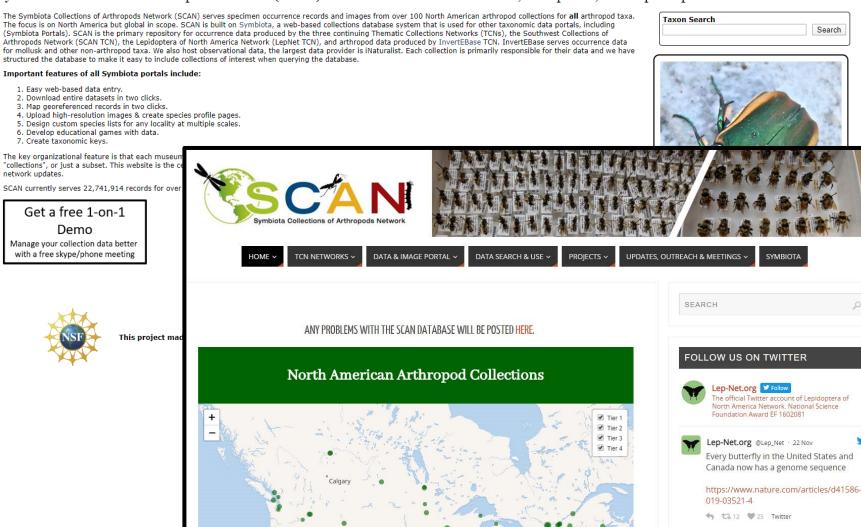
# Welcome Neil! My Profile Logout

Search

5

Lep-Net.org @Lep\_Net · 22 Nov The Extended Specimen Network: A Strategy to Enhance US Biodiversity Collections Promote Research and

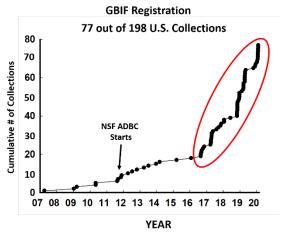
#### Symbiota Collections of Arthropods Network (SCAN): A Data Portal Built to Visualize, Manipulate, and Export Species Occurrences



**SCAN** Data Portal

Most Complete arthropod occurrence data for North America

## 22 million records 4.7 million images 218 collection datasets



2. WordPress site Provides user guides, compiled data and literature

## SCAN Support - ParasiteTracker

## **Basic Support**

- 1. Maintain portal functionality (keep the database working 24/7/365)
- General end user support (webinar, user guides on website) and small-group or one-on-one consultation (skype, email , phone). TPT updates on SCAN support site <u>https://scan-all-bugs.org/?page\_id=2717</u>. SCAN issues on Github <u>https://github.com/scan-bugs-org/scan/issues</u>
- 3. Update & integrate data (IPTs, direct DwC-A, and csv's) from non-Symbiota & Symbiota Snapshot data providers
- 4. Provide for host association data to be **Fully** entered into Symbiota (Live Collections) and/or **Full** harvest of association data from Snapshot collections (e.g., IPT).



## SCAN Support - ParasiteTracker

## **Optional Support/Development**

- 1. Incorporate mammal and bird taxonomy tables to SCAN
  - Allows controlled taxonomic vocabulary
- 2. Continue collaboration with Fieldguide for computer vision
  - Collections can train Fg and later screen new images for identification
- 3. Store copies of all TPT images, not just Live Collections
  - Under current model only Live collections have to upload images to make them available
- 4. Make a dedicated multiphyla portal with following occurrence data
  - Parasitic arthropods
  - Vertebrates
  - Non-arthropod parasitic invertebrates
  - Vertebrate diseases
  - Parasite symbionts
- 5. Present associated taxa statistics



#### Field Museum of Natural History Collection of Insects, Arachnids, and Myriapods

Catalog #: FMNHINS 0000 028 461 Secondary Catalog #: http://fm-digital-assets.fieldmuseum.org/613/791/28461\_Abrocomophaga\_chilensis\_PT\_d\_IN.jpg|http://fm-digitalassets.fieldmuseum.org/613/793/28461 Abrocomophaga chilensis PT v IN.jpg|http://fm-digital-assets.fieldmuseum.org/558/371/28461 Abrocomophaga chilensis PT v IN.jpg Taxon: Abrocomophaga chilensis Family: Gyropidae Collector: Date: 1974-11-02 - 1974-01-02 Verbatim Date: 1974-11-2 Locality: Chile, Reg. Metropolitana, Santiago, Til, Til Life Stage: adult female Sex: adult female Individual count: 2

Specimen Images	the second s	Open Medium Image Price Price Price Paratypes 0000 028 461	Abrocoma bennetti Til, Til, Santiago, Chile 2 Nov.1974 REM 1105
Open Large Image	Open Large Image	Bennett's chinchil	la rat

Share 0

🈏 Tweet

Usage Rights: CC BY-NC 3.0 (Attribution-Non-Commercial) Rights Holder: Copyright © 2015 The Field Museum of Natural History Access Rights: http://fieldmuseum.org/about/copyright-information Record Id: 9f6db642-b1c3-4e5e-bc03-c7d2b64adccb Occurrence ID (GUID): f3d57ace-4a05-438f-9c12-6c5a5ecbb87d For additional information on this occurrence, please contact; Sharon Grant Collection Manager) (sgrant@fieldmuseum.org) Do you see an error? If so, errors can be fixed using the Occurrence Editor

## **SCAN Support - ParasiteTracker**

TCN support travels with <u>https://scan-bugs.org/portal/</u> regardless of where the database is located. Plan to move from TACC to ASU by March 31, 2020.

Symbiota2 development will not negatively impact TCN work <a href="https://symbiota2.github.io/Symbiota2/">https://symbiota2.github.io/Symbiota2/</a>

## Parasite Tracker (TPT) ParasiteTracker TCN has own set of collections

*	•	Academy of Natural Sciences Entomology Collection – ParasiteTracker (ANSP-PARA) more info
	1	Bernice P. Bishop Museum (HSMNCH-BPBM) more info
<b>_</b>	1	Brigham Young University Arthropod Museum (BYU-BYUC) more info
業	-	California Academy of Sciences Entomology (CAS-ENT) more info
-	-	Clemson University Arthropod Collection (CU-CUAC) more info
$\mathbf{E}$	-	Field Museum of Natural History Collection of Insects, Arachnids, and Myriapods (FMNH-FMNHINS) more info
HATNOIS NATURAL BISTORY SURVEN	-	Illinois Natural History Survey Insect Collection (INHS-INHSIC) more info
mem	1	Milwaukee Public Museum, Invertebrate Zoology-Insect Collection (MPM-MPM ENT) more info
Sudjuction	-	Museum of Southwestern Biology Division of Parasitology - ParasiteTracker (MSB-PARA) more info
	-	Nebraska State Museum - ParasiteTracker (UNL-NSM) more info
-	-	Ohio State C.A. Triplehorn Insect Collection (OSU-OSU) more info
	1	Price Institute of Parasite Research, School of Biological Sciences, University of Utah (UTAH-PIPR) more info
Ă <b>_</b> M	1	Texas A&M University Insect Collection (TAMU-TAMUIC) more info
4.5	1	The Albert J. Cook Arthropod Research Collection (MSU-MSUC) more info
	1	The Purdue Entomological Research Collection (PU-PERC) more info
CHER	1	University of California Santa Barbara Invertebrate Zoology Collection (UCSB-IZC) more info
9	-	University of Hawaii Insect Museum (UHIM-UHIM) more info
ANE VIEWAN	1	University of Michigan Museum of Zoology, Division of Insects (UMMZ-UMMZI) more info
<u></u>	-	University of Minnesota Insect Collection (MIN-UMSP) more info
	-	University of New Hampshire Collection of Insects and Arthropods (UNHC-UNHC) (UNHC-UNHC) more info
٩	-	University of Wisconsin-Stevens Point (UWSP-ENT) more info
۱	-	Wisconsin Insect Research Collection (WIS-IH-WIRC) more info
<b>N</b>	-	Frost Entomological Museum (PSUC-ENTO) more info

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300	1	Academy of Natural Sciences Entomology Collection – ParasiteTracker (ANSP-PARA) more info
NV//	-	Academy of Natural Sciences Entomology Collection – ParasiteTracker (ANSP-PARA) more info

Bernice P. Bishop Museum (HSMNCH-BPBM) more info

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Brigham Young University Arthropod Museum (BYU-BYUC) more info

California Academy of Sciences Entomology (CAS-ENT) more info

Clemson University Arthropod Collection (CU-CUAC) more info

Field Museum of Natural History Collection of Insects, Arachnids, and Myriapods (FMNH-FMNHINS) more info

Illinois Natural History Survey Insect Collection (INHS-INHSIC) more info

Milwaukee Public Museum, Invertebrate Zoology-Insect Collection (MPM-MPM ENT) more info

Museum of Southwestern Biology Division of Parasitology - ParasiteTracker (MSB-PARA) more info

Nebraska State Museum - ParasiteTracker (UNL-NSM) more info

Ohio State C.A. Triplehorn Insect Collection (OSU-OSU) more info

Price Institute of Parasite Research, School of Biological Sciences, University of Utah (UTAH-PIPR) more info

Texas A&M University Insect Collection (TAMU-TAMUIC) more info

The Albert J. Cook Arthropod Research Collection (MSU-MSUC) more info

The Purdue Entomological Research Collection (PU-PERC) more info

University of California Santa Barbara Invertebrate Zoology Collection (UCSB-IZC) more info

University of Hawaii Insect Museum (UHIM-UHIM) more info

University of Michigan Museum of Zoology, Division of Insects (UMMZ-UMMZI) more info

University of Minnesota Insect Collection (MIN-UMSP) more info

✓ University of New Hampshire Collection of Insects and Arthropods (UNHC-UNHC) (UNHC-UNHC) more info

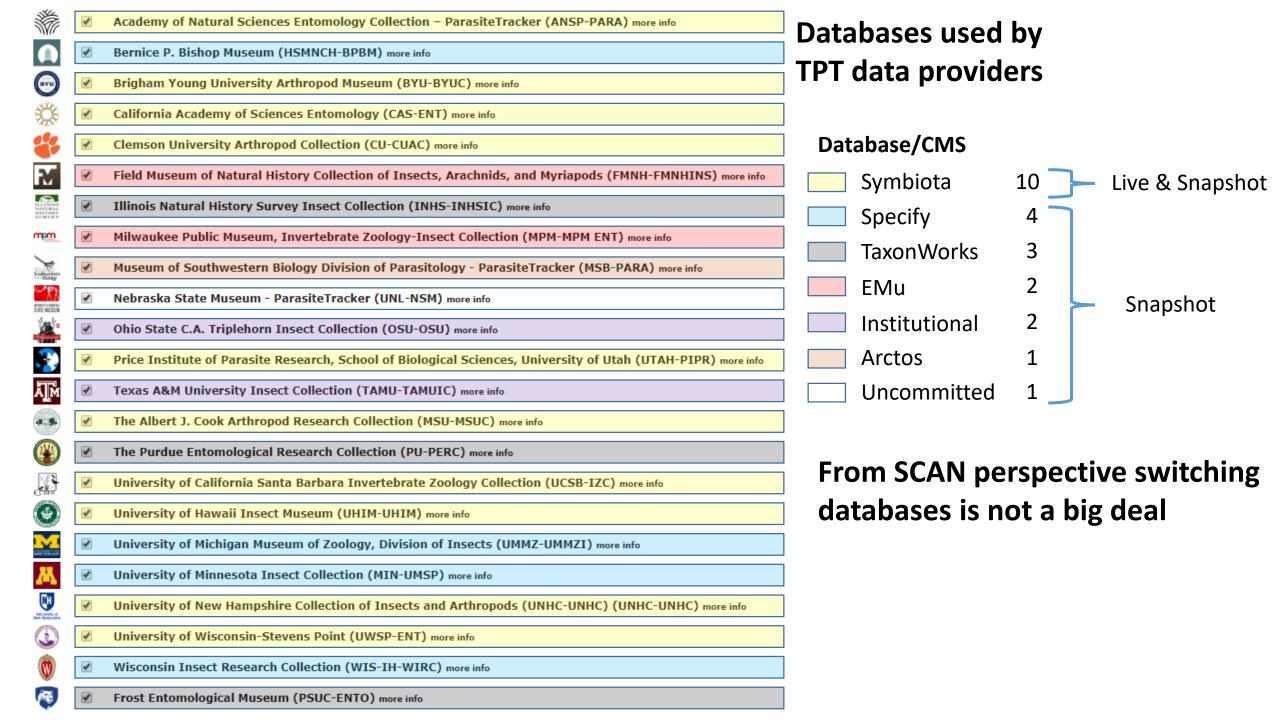
University of Wisconsin-Stevens Point (UWSP-ENT) more info

Wisconsin Insect Research Collection (WIS-IH-WIRC) more info

Frost Entomological Museum (PSUC-ENTO) more info

Four Collections serve TPT Only data

We can create TPT-only collections for other institutions



	Live Collections	Snapshot Collections
Single Record	<ul> <li>Single record entry through Symbiota in SCAN</li> </ul>	<ul> <li>Record entry through non-Symbiota database</li> </ul>
Data entry	• Excel or other program	
		,
Batch Record Upload	• CSV file	<ul> <li>IPT, DwC-A or CSV file</li> <li>Specify has a linkage workflow</li> </ul>
Image upload	<ul> <li>Single image upload (record entry) or batch image upload via zip file through SCAN image uploader</li> </ul>	<ul> <li>Link image URL in record and/or batch image upload via zip file through SCAN image uploader</li> </ul>
Data annotation	<ul> <li>Annotate directly in SCAN and/or batch upload annotations.</li> </ul>	<ul> <li>Annotate in native database and update records as part of SCAN harvest.</li> </ul>

**Overview of four specific functions** 

- 1. Collection Profile
- 2. Uploading data and images
- 3. Query summary stats to assess progress
- 4. Computer Vision: Fieldguide reporting in SCAN

# 1. Collection Profile





Search

#### Fauna Projects Statistics Other Networks Symbiota Contact Search mages

#### Symbiota Collections of Arthropods Network (SCAN): A Data Portal Built to Visualize, Manipulate, and Export Species Occurrences

The Symbiota Collections of Arthropods Network (SCAN) serves specimen occurrence records and images from over 100 North American arthropod collections for all arthropod taxa. The focus is on North America but global in scope. SCAN is built on Symbiota, a web-based collections database system that is used for other taxonomic data portals, including (Symbiota Portals). SCAN is the primary repository for occurrence data produced by the three continuing Thematic Collections Networks (TCNs), the Southwest Collections of Arthropods Network (SCAN TCN), the Lepidoptera of North America Network (LepNet TCN), and arthropod data produced by InvertEBase TCN. InvertEBase serves occurrence data for mollusk and other non-arthropod taxa. We also host observational data, the largest data provider is iNaturalist. Each collection is primarily responsible for their data and we have structured the database to make it easy to include collections of interest when querying the database.

#### Important features of all Symbiota portals include:

- 1. Easy web-based data entry.
- 2. Download entire datasets in two clicks.
- Map georeferenced records in two clicks.
- 4. Upload high-resolution images & create species profile pages.
- 5. Design custom species lists for any locality at multiple scales.
- 6. Develop educational games with data.
- 7. Create taxonomic keys.

The key organizational feature is that each museum or project is listed as a separate collection, so that one database group does not interfere with another. End users can select all "collections", or just a subset. This website is the central data portal for SCAN; all other project information can be found on the LepNet WordPress site, including How-To-Guides and network updates.

SCAN currently serves 22,741,914 records for over 238,177 species, and over 2,276,630 specimen/label images (2020-02-23 18:44:15 America/Phoenix ).

#### Get a free 1-on-1 Demo

Manage your collection data better with a free skype/phone meeting



Taxon Search







#### Parasite Tracker (TPT)

*	1	Academy of Natural Sciences Entomology Collection – ParasiteTracker (ANSP-PARA) more info
	1	Bernice P. Bishop Museum (HSMNCH-BPBM) more info
	-	Brigham Young University Arthropod Museum (BYU-BYUC) more info
業	1	California Academy of Sciences Entomology (CAS-ENT) more info
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272	1	Nebraska State Museum - ParasiteTracker (UNL-NSM) more info Click on
10	1	Ohio State C.A. Triplehorn Insect Collection (OSU-OSU) more info
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R	1	Frost Entomological Museum (PSUC-ENTO) more info



#### Home Search Images Fauna Projects Statistics Other Networks Symbiota Contact

Home >> Collection Search Page >> Price Institute of Parasite Research, School of Biological Sciences, University of Utah Details

### Price Institute of Parasite Research, School of Biological Sciences, University of Utah (UTAH-PIPR)

The Price Institute for Parasite Research (PIPR) is largely focused on the study of ectoparasitic insects (but we also work on vertebrate endoparasites, including avian malaria). The centerpiece of PIPR is a collection of 1200+ species of slidemounted lice, representing about two thirds of the 301 recognized genera, making it the fourth most diverse collection in North America (top 10 worldwide). The collection is invaluable because of the consistent quality of its specimens, most of which were prepared by Dr. Roger Price, a leading authority on the systematics of lice. PIPR also contains an extensive collection of 40,000+ slides of fleas and lice assembled by the late Robert Elbel. It houses equipment for microscopy and the creation and analysis of digital images. This facility, in conjunction with the University's SEM unit, allows for rapid recording of morphometric data on a variety of scales. PIPR has facilities for preparing new slide-mounts and remounting slides. It houses one of the largest frozen ectoparasite tissue collections in the world, consisting of 7,000+ specimens from 250+ host species. PIPR also has an associated molecular lab with full capabilities for DNA extraction, PCR, and the preparation of material for the University of Utah's central automated sequencing facility. PIPR will serve as a base for research and training in ectoparasitology well into the new century. • 25,000 slides of lice (Phthiraptera) • 17,000 slides of fleas (Siphonaptera) • Additional ectoparasite specimens include: mites, ticks, flies, and helminths, but these are not yet catalogued.

Contact: Sarah Bush (bush@biology.utah.edu)

Home Page: http://darwin.biology.utah.edu/PIPeRX.html

Collection Type: Preserved Specimens

Management: Live Data managed directly within data portal

Global Unique Identifier: 028fdfa8-3d4b-4c1f-ab67-4cd41e01e213

DwC-Archive Publishing: https://scan-bugs.org:443/portal/collections/datasets/datapublisher.php

Live Data Download: DwC-Archive File

Digital Metadata: EML File

Usage Rights: CC BY-NC 3.0 (Attribution-Non-Commercial)

Rights Holder: Sarah E. Bush, Curator PIPR collection

Collection Statistics

- 2 occurrence
- 0 georeferenced
- 0 families
- 0 genera
- 0 species

#### Extra Statistics

Show Geographic Distribution Show Family Distribution



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Click on

Pencil



Home >> Collection Search Page >> Price Institute of Parasite Research, School of Biological Sciences, University of Utah Details

#### Price Institute of Parasite Research, School of Biological Sciences, University of Utah (UTAH-PIPR)

#### Data Editor Control Panel -Quick Search- Add New Occurrence Record Catalog Number Create New Records Using Image Add Skeletal Records Edit Existing Occurrence Records Add Batch Determinations/Nomenclatural Adjustments Print Labels/Annotations Batch Georeference Specimens Loan Management Administration Control Panel **Collection Profile** Edit Metadata and Contact Information Manage Permissions Fieldguide Batch Image Processing Import/Update Specimen Records Processing Toolbox Darwin Core Archive Publishing Review/Verify Occurrence Edits View Access Statistics Duplicate Clustering General Maintenance Tasks Data Cleaning Tools Download Backup Data File Thumbnail Maintenance Update Statistics Clean SOLR Index

## Go to "collection" Sitemap



#### Home Search Images Fauna Projects Statistics Other Networks Symbiota Contact

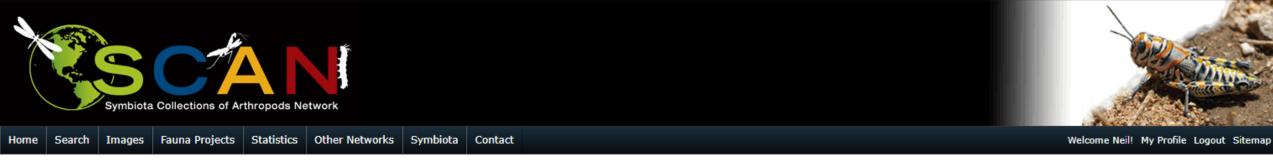
Home >> Collection Management >> Price Institute of Parasite Research, School of Biological Sciences, University of Utah Metadata Editor

#### Price Institute of Parasite Research, School of Biological Sciences, University of Utah (UTAH)

Edit Collection Information Institution Code: UTAH 0 0 Collection Code: PIPR Collection Name: Price Institute of Parasite Research, School of Biological Sciences, University of Utah Description The Price Institute for Parasite Research (PIPR) is largely focused on the study of ectoparasitic insects (but we also work on vertebrate endoparasites, including avian (2000 character max): malaria). The centerpiece of PIPR is a collection of 1200+ species of slide-mounted lice, representing about two thirds of the 301 recognized genera, making it the fourth most diverse collection in North America (top 10 worldwide). The collection is invaluable because of the consistent quality of its specimens, most of which were prepared by Dr. Roger Price, a leading authority on the systematics of lice. PIPR also contains an extensive collection of 40,000+ slides of fleas and lice assembled by the late Robert Elbel. It houses equipment for microscopy and the creation and analysis of digital images. This facility, in conjunction with the University's SEM unit, allows for Homepage: http://darwin.biology.utah.edu/PIPeRX.html Contact: Sarah Bush Email: bush@biology.utah.edu Latitude: 40.763734 0 Longitude: -111.848542 Category: Parasite Tracker v Allow Public Edits: v 0 License: CC BY-NC 3.0 (Attribution-Non-Commercial) Rights Holder: Sarah E. Bush, Curator PIPR collection 0 Access Rights: 0 GUID source: Symbiota Generated GUID (UUID) 🔻 🕖 Publish to Aggregators: GBIF 🗹 🚺 Source Record URL: 6 Icon URL: https://scan-bugs.org:443/portal/content/collicon/utah-pipr.png Upload Local Image 6 Collection Type: Preserved Specimens 🔻 🕖 Management: Live Data 🔻 🚺 Sort Sequence: Global Unique ID: Security Key: Save Edits -Mailing Address No addesses linked Select Institution Address Link Address Add an institution not on list



Welcome Neil! My Profile Logout Sitema



Home >> Collection Search Page >> Price Institute of Parasite Research, School of Biological Sciences, University of Utah Details

#### Price Institute of Parasite Research, School of Biological Sciences, University of Utah (UTAH-PIPR)

# Data Editor Control Panel Add New Occurrence Record Create New Records Using Image Add Skeletal Records Edit Existing Occurrence Records Add Batch Determinations/Nomenclatural Adjustments

- Print Labels/Annotations
- Batch Georeference Specimens
- Loan Management

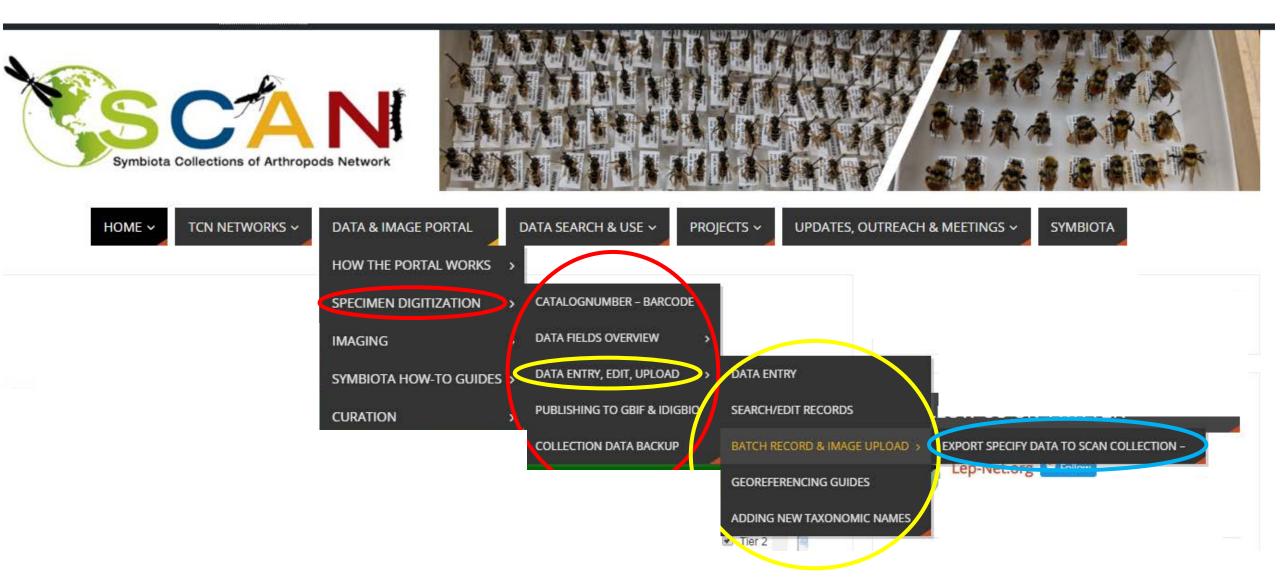
#### -Administration Control Panel

- View Posted Comments
- Edit Metadata and Contact Information
- Manage Permissions
- Fieldguide Batch Image Processing
- Import/Update Specimen Records
- Processing Toolbox
- Darwin Core Archive Publishing
- Review/Verify Occurrence Edits
- View Access Statistics
- Duplicate Clustering
- General Maintenance Tasks
- Data Cleaning Tools
- Download Backup Data File
- Thumbnail Maintenance
- Update Statistics
- Clean SOLR Index

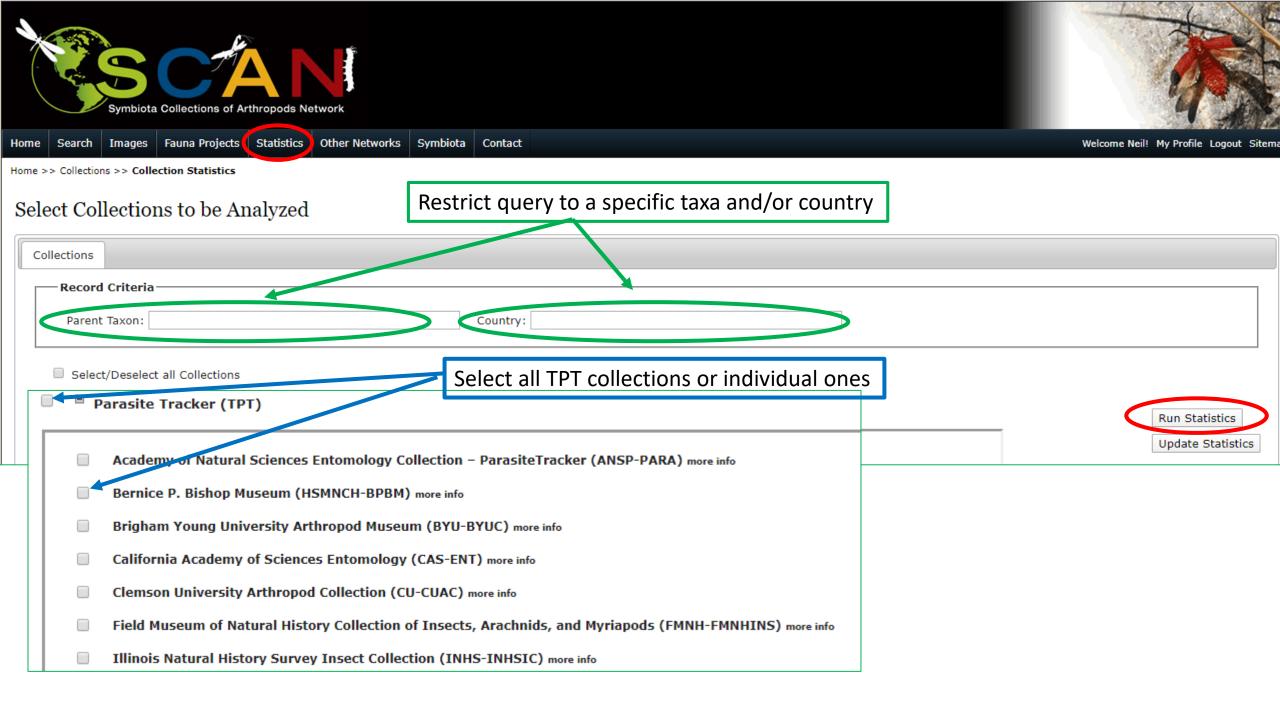
# 2. Uploading data and images

# How to Batch Upload Data on SCAN

General Reference Material <u>https://scan-all-bugs.org/?page\_id=201</u>

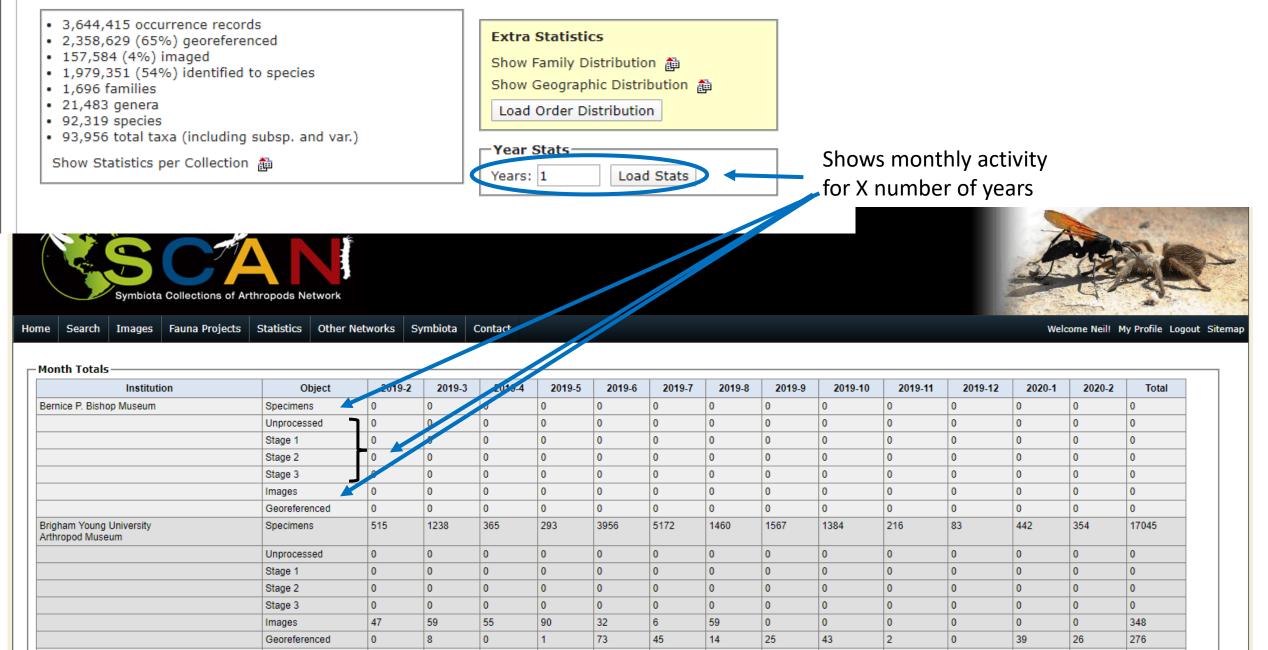


3. Query summary stats to assess progress

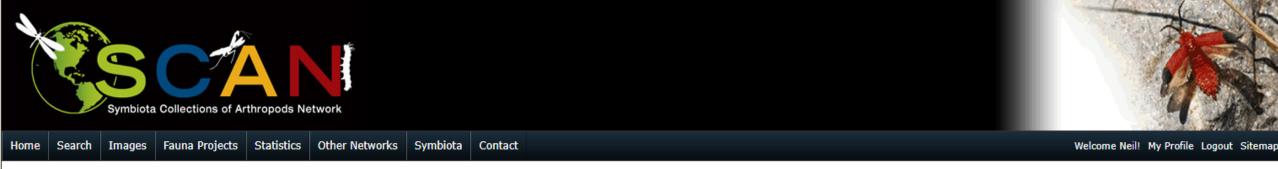


## Selected Collection Statistics

#### **Display List of Collections Analyzed**



# 4. Computer Vision: Fieldguide



Home >> Collection Search Page >> C.P. Gillette Museum of Arthropod Diversity Details

### C.P. Gillette Museum of Arthropod Diversity (CSU-CSUC)

#### — Data Editor Control Panel

- Add New Occurrence Record
- Create New Records Using Image
- Add Skeletal Records
- Edit Existing Occurrence Records
- Add Batch Determinations/Nomenclatural Adjustments
- Print Labels/Annotations
- Batch Georeference Specimens
- Loan Management

#### -Administration Control Panel-

- View Posted Comments
- Edit Metadata and Contact Information
   Manage Degregations

#### Fieldguide Batch Image Processing

- Import/opdate Specimen Records
- Processing Toolbox
- Darwin Core Archive Publishing
- Review/Verify Occurrence Edits
- View Access Statistics
- Duplicate Clustering
- General Maintenance Tasks
- Data Cleaning Tools
- Download Backup Data File
- Thumbnail Maintenance
- Update Statistics
- Clean SOLR Index

Open Fieldguide computer vision module

-Quick Search-

Catalog Number

Symbiota Coll	lections of Arthropods Ne	twork								
Home Search Images Fau	una Projects Statistics	Other Networks	Work with SCAN	N Symbiota	Contact					
Home >> Collection Management >	> Fieldguide Batch Proces	ssing								
Batch process initiated 🔸										
Fieldguide Batch F	Processing									
Use this dialogue to initiate, ca leave the Parent Taxon box em received from Fieldguide, the j	pty and click Initiate Proc	ess to intiate a bato	h image identific	ation process f	for your whole co	ent taxon into the F llection. Processor	Parent Taxon box t that are currently	o initiate being ide	e a batch image identif entified by Fieldguide v	
		Par	rent Taxon:				Initia	te Proces	ss	This job is currently running
		Curre	ent Jobs:							
			Date Initiated	Parent	Taxon		С	ancel	] 🗖	
			2018-04-10	Noctuid	lae		ر	¢		
		Curre	ent Results:						-	
				Date Initiated	Date Received	Parent Taxon		Delete		
			View Results	2018-03-04	2018-03-04	Erebidae		x		
			View Results	2018-03-07	2018-03-07	Erebidae		x		
			View Results	2018-03-09	2018-03-12	Lepidoptera		x		These jobs are completed
			View Results	2018-04-02	2018-04-02	Erebidae		x	-	
			View Results	2018-04-05	2018-04-05	Lepidoptera		x	-	
		l							1	



## Accessing Fieldguide through SCAN

Image in SCAN

CSU\_ENT1007400 1-2.51605

C.P. Gillette Museum of Arthropod Diversity (CSU-CSUC)

Full Results
Filtered Results

Use the checkboxes to select the records you would like to add determinations, and the radio buttons to select which determination to add. 1 to 22 of 22 Results

Fieldgui	de stats
	Download CSV

1 to 22 of 22 Results									
Record ID	Inst. Code	Coll. Code		Current Identification	Family			Fieldguide Identification	Fieldguide Training Images
23649305	CSU	CSUC		Cisthene martini	Erebidae	View Image		Cisthene martini Current determination	44
							۲	Cisthene picta	45
23649313	CSU	CSUC		Cisthene martini	Erebidae	View Image	۲	Cisthene picta	45
								Cisthene martini Current determination	44
23683174	CSU	CSUC		Cisthene faustinula	Erebidae	View Image		Cisthene faustinula Current determination	43
							۲	Cisthene deserta	31
23683162	CSU	CSUC		Cisthene liberomacula	Erebidae	View Image	۲	Cisthene deserta	31
23683001	CSU	CSUC		Cisthene unifascia	Erebidae	View Image		Cisthene unifascia Current determination	123
							۲	Teulisna	69
23650028	CSU	CSUC		Cisthene subrufa	Erebidae	View Image	۲	Cisthene tenuifascia	398
								Cisthene subrufa Current determination	112
23650025	CSU	CSUC		Cisthene subrufa	Erebidae	View Image	۲	Cisthene picta	45
							0	Cisthene martini	44
							0	Cisthene angelus	111

SCAN Portal: <a href="https://scan-bugs.org/portal/">https://scan-bugs.org/portal/</a>

# SCAN Support Documentation: <a href="https://scan-all-bugs.org/">https://scan-all-bugs.org/</a>