

# UC Santa Barbara

## Posters

### Title

An Update on the Invertebrate Zoology Collection at the University of California, Santa Barbara

### Permalink

<https://escholarship.org/uc/item/01s3q625>

### Authors

Behm, Rachel  
Horsley, Pamela  
Seltmann, Katja C

### Publication Date

2018-11-01

### Supplemental Material

<https://escholarship.org/uc/item/01s3q625#supplemental>



# An Update on the Invertebrate Zoology Collection at the University of California - Santa Barbara

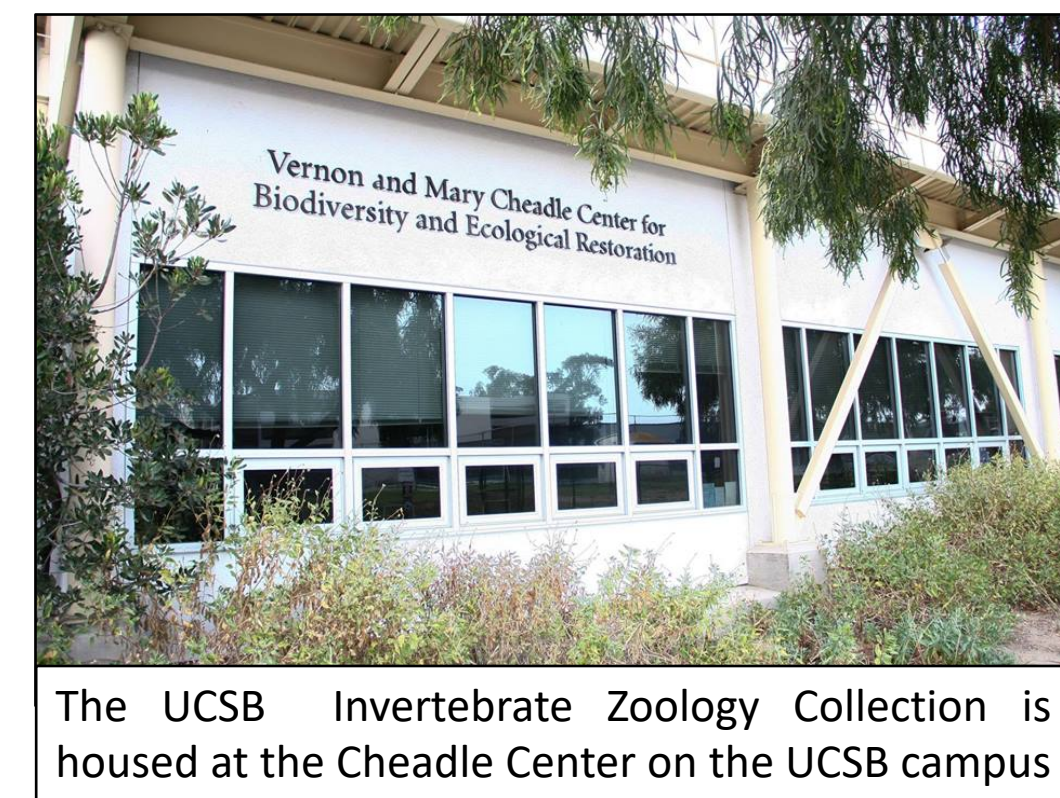
Rachel Behm, Pam Horsley & Katja C. Seltmann

Cheadle Center for Biodiversity and Ecological Restoration, University of California – Santa Barbara

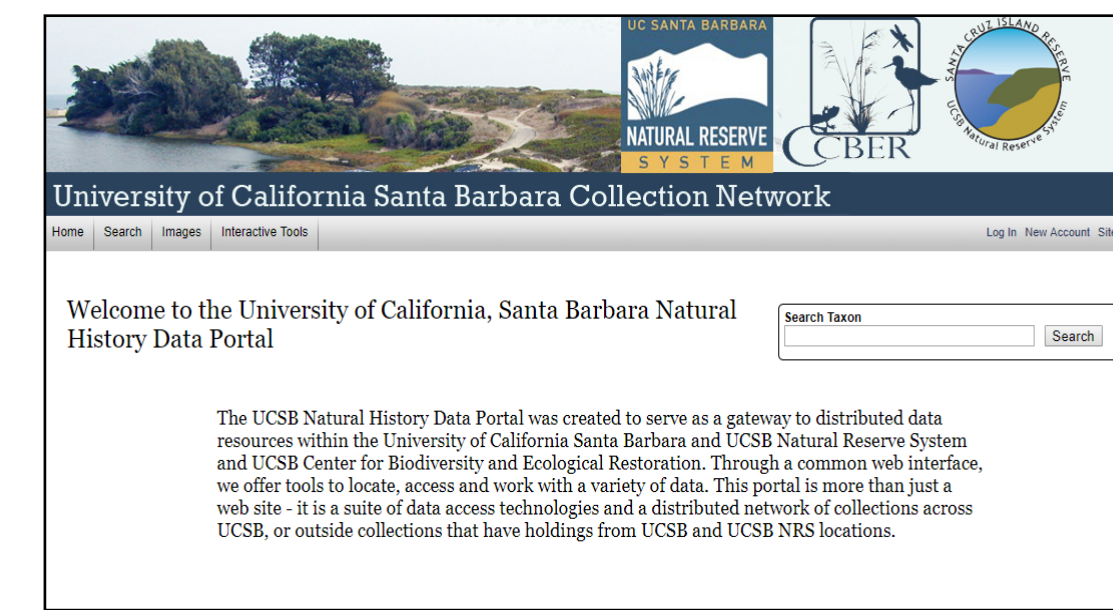


## Introduction

Starting in 2016, the University of California - Santa Barbara (UCSB) Natural History Collections at the Cheadle Center for Biodiversity and Ecological Restoration formed an Invertebrate Zoology Collection from 10,000 specimens rediscovered in a basement on campus. Since its discovery, this collection has grown rapidly through coastal California arthropod survey efforts, donated student collections, and faculty research projects.



The UCSB Invertebrate Zoology Collection is housed at the Cheadle Center on the UCSB campus



Our database is open to the public and is accessible via [www.symbiota.cber.ucsb.edu](http://www.symbiota.cber.ucsb.edu)

The development of an invertebrate collection on campus has raised the profile of entomology and arthropod conservation on campus. New outcomes from the development of the collection include the formation of an outreach program through the UCSB Extension Department and the discovery of several extirpated rare or endangered insects that once occurred on the UCSB campus.

## Methods

Before:



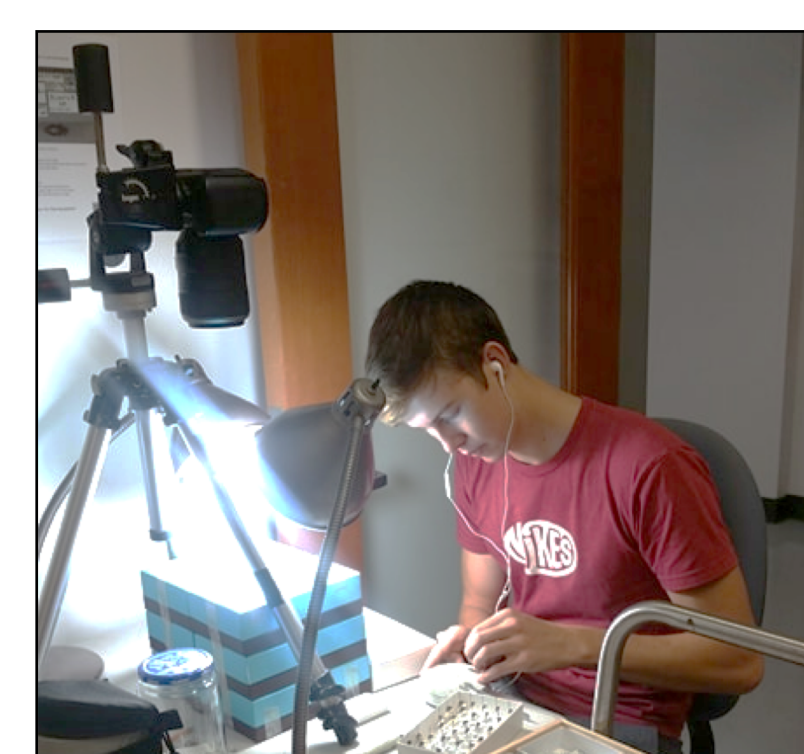
Historic coarsely-organized teaching collection by Dr. Adrian Wenner from the 1950s to 80s

2016:



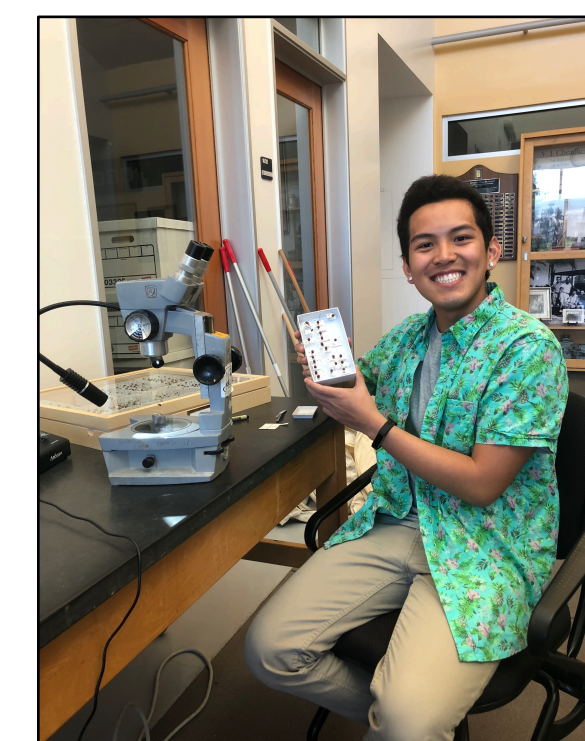
A major grant from the **Institute of Museum and Library Services** for staff, equipment, specimen identification and curation

2016-2017:



Databasing specimens began and images uploaded into our Symbiota data portal where the label information is transcribed. Workshops and courses started engaging campus and students

Now:



Quality of specimen curation, data, and organization improved. Addition of specimens from UCSB courses, accessions from the UCSB Natural Reserve System, faculty and graduate research projects, and regional arthropod survey projects are continuing to grow the collection

## Results

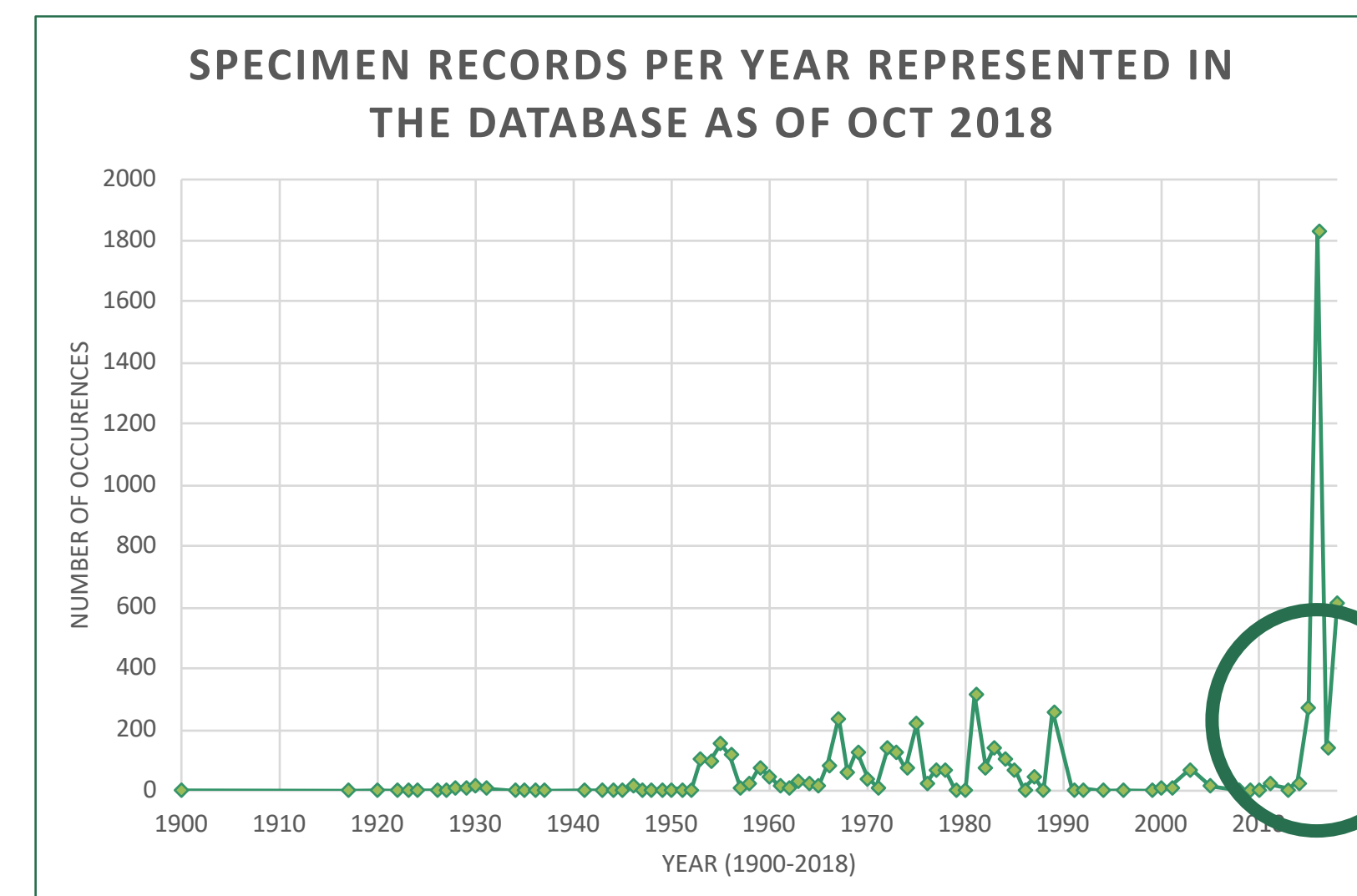
Last Year

Database Stats as of Oct 2017	
Total records	1,432
# Georeferenced	863
# of Families	66
# of Genera	43
# to Species	130
# of Species	20

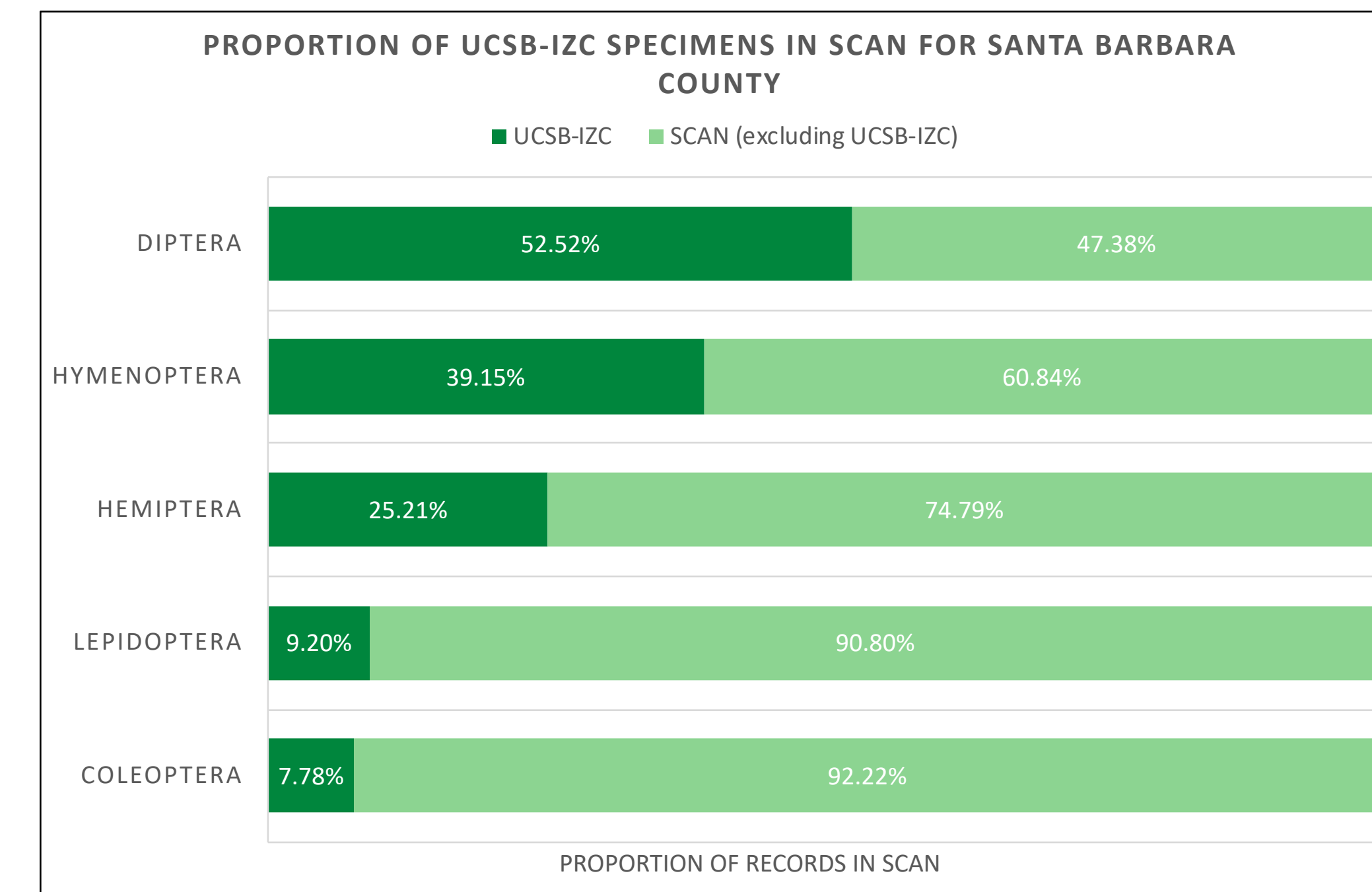
This Year

Database Stats as of Oct 2018	
Total records	10,320 (+621%)
# Georeferenced	5,877 (+581%)
# of Families	268 (+306%)
# of Genera	452 (+951%)
# to Species	3,486 (+2561%)
# of Species	407 (+1935%)

- **Incredible increase** in number of specimens databased and in the collection since last year
- **Inclusion of other non-insect arthropods** including Amphipoda, Isopoda, Diplopoda, Chilopoda and Arachnida
- **Increase in number to specimens expertly determined** to species, largely due to the identification by many taxonomic experts



Why is there a decrease even though effort is on the rise?  
Because we now have a **backlog** of newly acquired specimens



- Our digitized specimens make up **1/7<sup>th</sup> (13.8%)** of overall entries in SCAN for Santa Barbara County
- Our major contributions to SCAN are in Diptera (**over half!**), Hymenoptera, and Hemiptera
- Coleoptera and Lepidoptera are better sampled and digitized from Santa Barbara. This is largely due to projects supported by the Santa Barbara Museum of Natural History, such as the California Beetle Project.

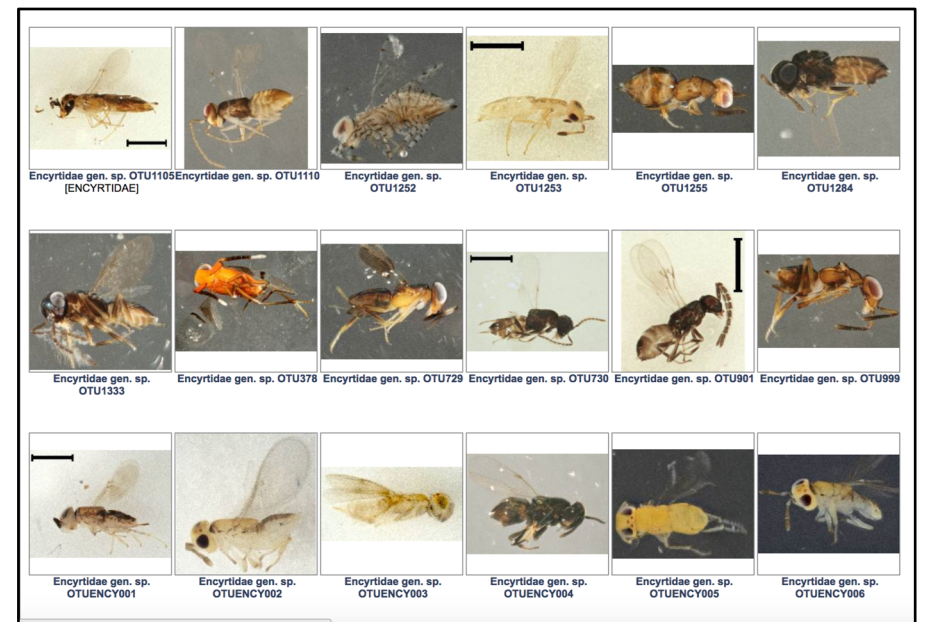
## Discoveries



Tracking changes in species ranges (*Cocytus antaeus*)



Examining the past for extirpated species



Discovering new species to science

## A Collection Changing the Campus



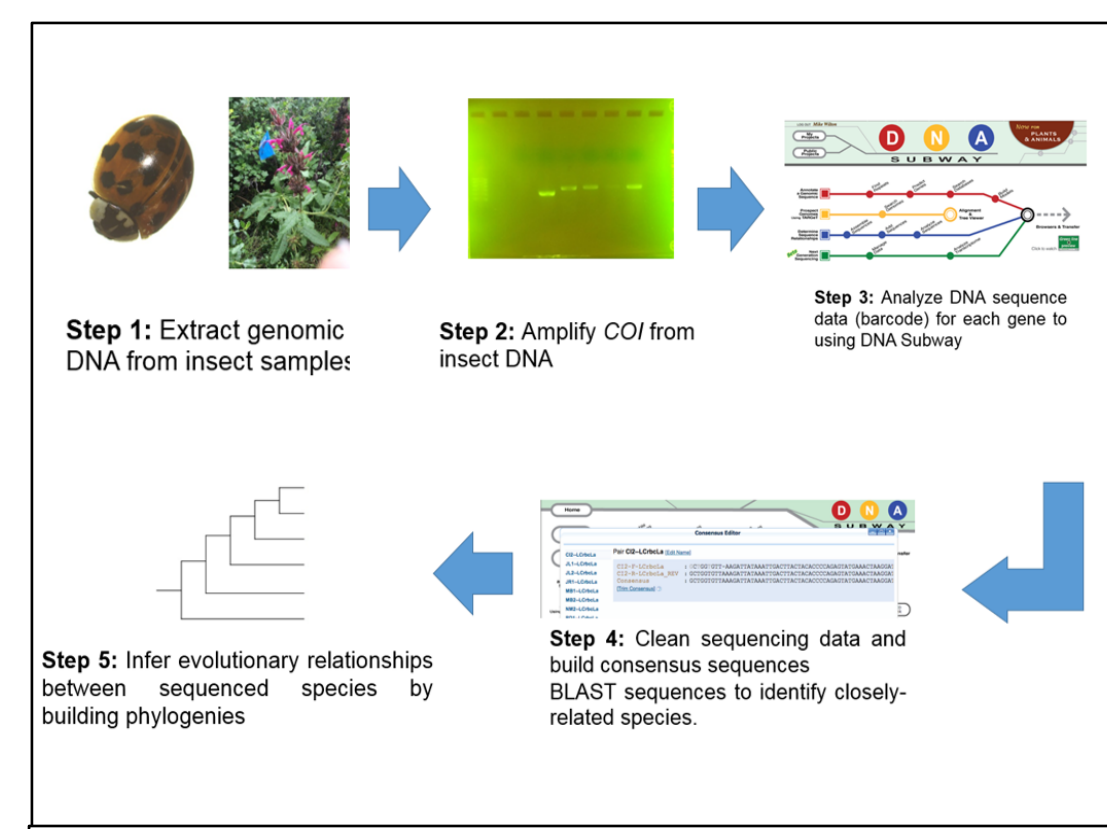
**New Research Voucher Collections:** Flies from a survey on the Palmyra Atoll



**Undergraduate Research Projects:** Native ants of Santa Barbara County by Zach Brown and Elaine Tan



**Entomology Classes:** Introduction to Entomology now offered through Ecology, Evolution and Marine Biology Department



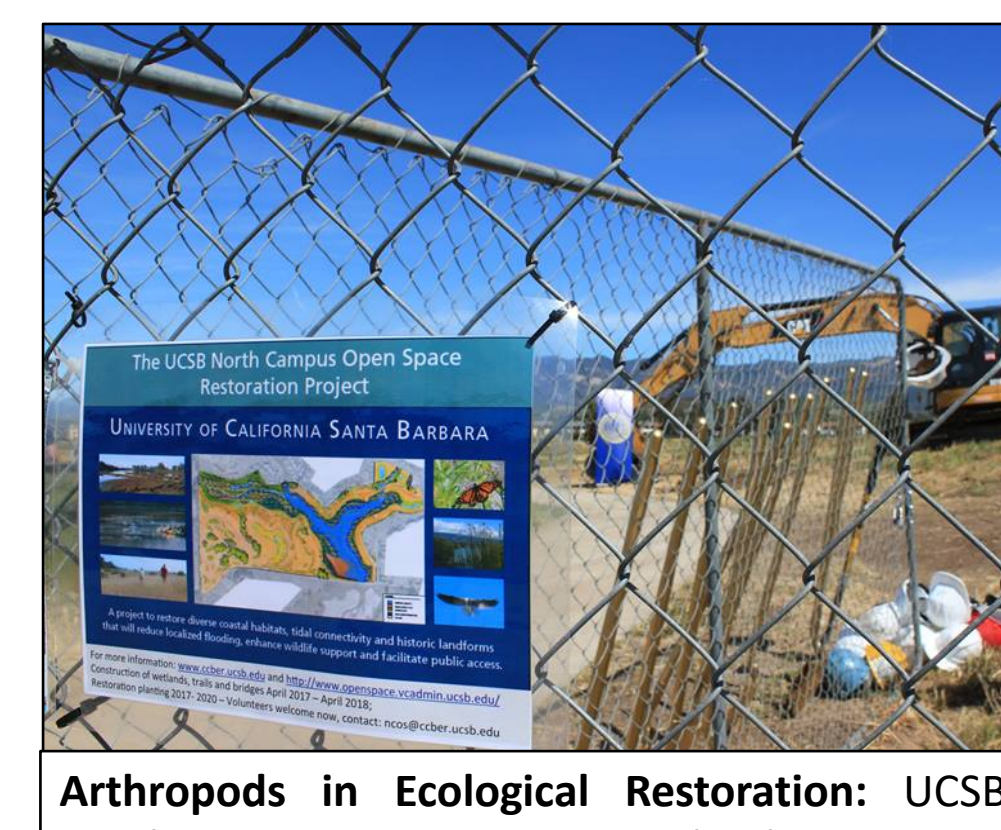
**Methods Classes:** A specimen based molecular biology methods course inspires freshman into insect and museum research



**K-12 Outreach:** New teaching collection used for outreach to local schools via the Kids in Nature Program



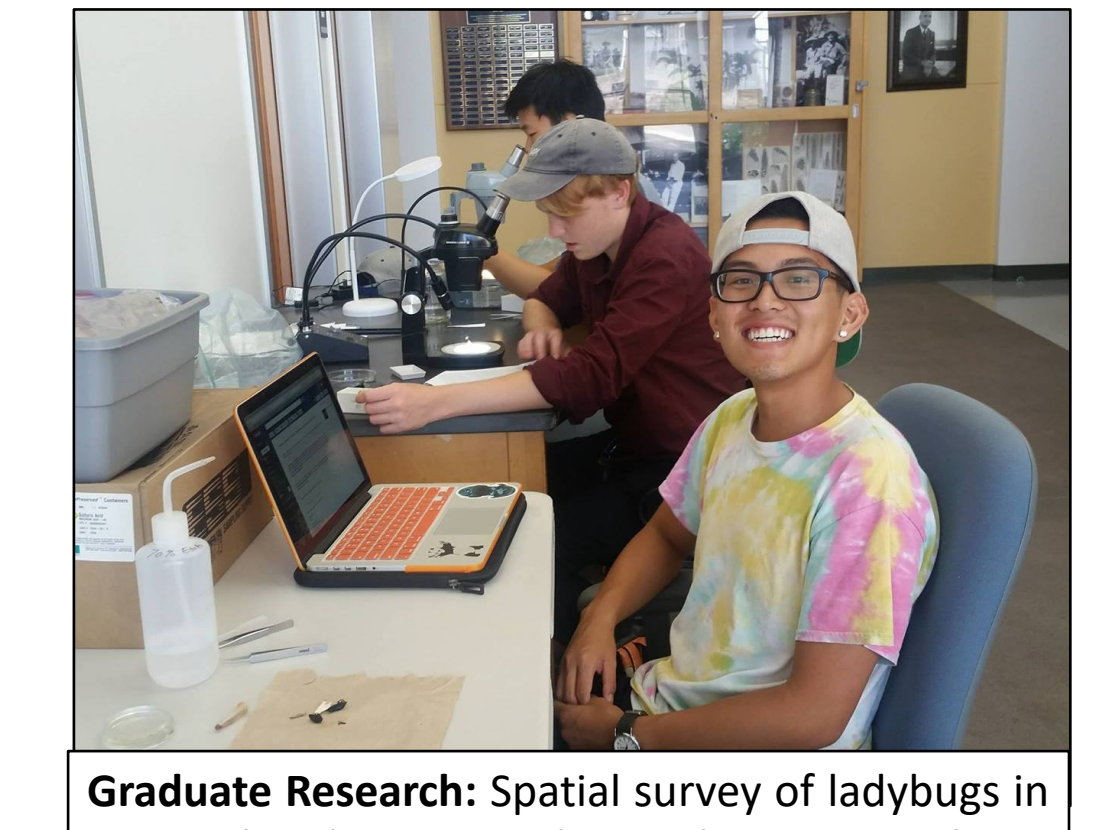
**Graduate Research:** Master's thesis on California Ophioninae by Rachel Behm



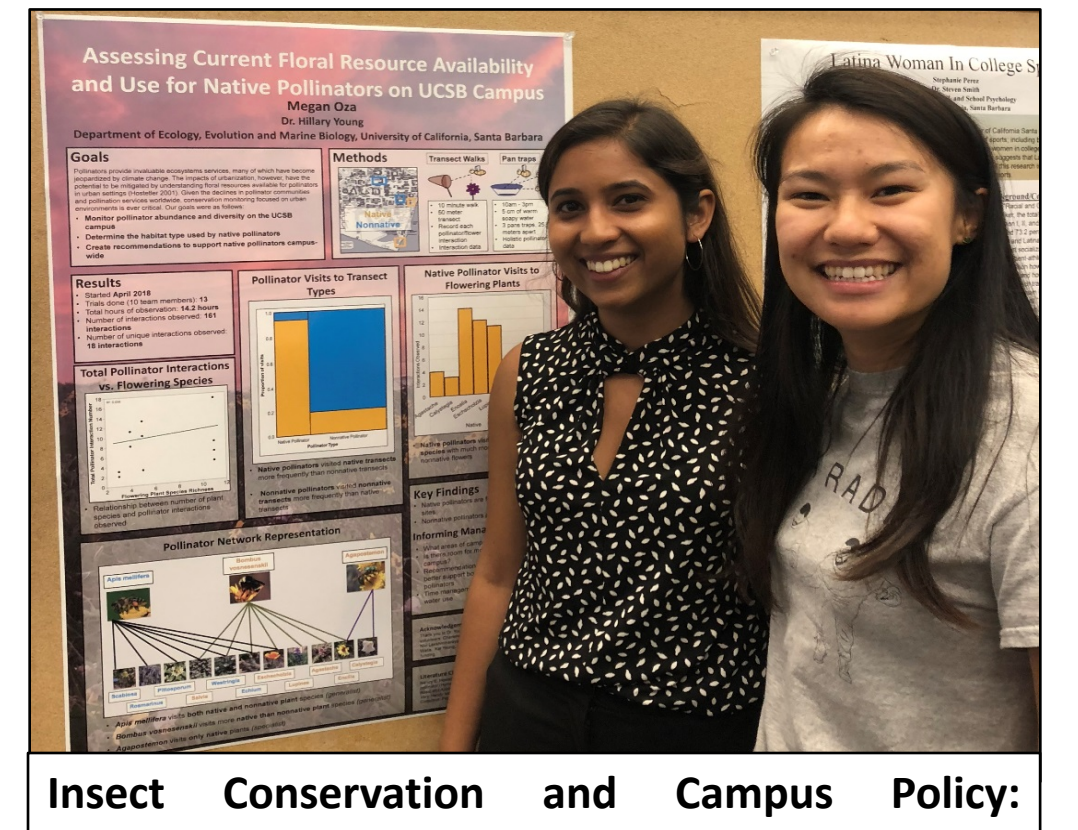
**Arthropods in Ecological Restoration:** UCSB North Campus Open Space wetland restoration arthropod monitoring project



**Graduate Research:** Survey of pollinators around Sierra Nevada Lakes by Michelle Lee



**Graduate Research:** Spatial survey of ladybugs in restored and un-restored areas by UCSC graduate student Justin Luong.



**Insect Conservation and Campus Policy:** UCSBees! project monitoring pollinators on campus by Michelle Lee and Megan Oza