

# UC Santa Barbara

## Presentations

### Title

Progress toward an inventory of the ants (Hymenoptera\_ Formicidae) of Santa Barbara County, California

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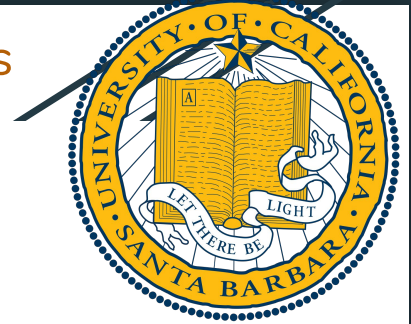
2020-11-01

### Data Availability

The data associated with this publication are available at:  
<https://symbiota.ccber.ucsb.edu/checklists/checklist.php?cl=11>



# Progress toward an inventory of the ants (Hymenoptera: Formicidae) of Santa Barbara County, California



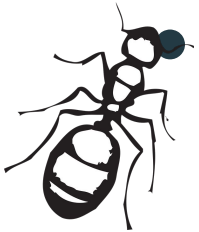
California is a hotbed of floral and faunal species diversity. Santa Barbara County is a 4000 square mile area on the central California coast. It has four distinct ecoregions: Southern California Coast, Southern California Mountains and Valleys, Central California Coast, and Central Valley Coast which include chaparral and coastal sage scrub habitats. Santa Barbara County also includes four of the eight Channel Islands, which has a similar assemblage of habitats as the mainland, and a recent history of invasive ant eradication projects. In 2018, we began to compile an inventory of ant species that occur in the county, obtaining records from online digitized collections including AntWeb, GBIF, Symbiota Collections of Arthropods Network, Ecdysis, and iNaturalist. We included our own sampling from North Campus Open Space (NCOS), a recent coastal saltmarsh restoration site, and the Coal Oil Point Reserve (COPR), part of the UC Natural Reserve System. From this effort we found 66 species across 27 genera within Santa Barbara County including new records from our sampling sites. This checklist was built using Symbiota's built-in check-list creation software. The coastal restoration sites proved to be less diverse and contain more invasive species than other areas within Santa Barbara County. In conclusion, the ongoing 2-year data collection from NCOS and COPR is a small part of a larger effort to expand the known ant species of Santa Barbara County. To provide a more comprehensive picture of the regional ant diversity, more targeted ant sampling in each ecoregion is needed.

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## Overview/Goals:

- Understand ant identification and Re-identification of old specimens
- What is the Diversity of ant in Santa Barbara County?
- Identify new specimens from collecting efforts
- Checklist Santa Barbara County ant genera/species
- Document Invasive ants in collections



# Ants in California



	California	Santa Barbara County
Subfamilies:	8	7
Genera:	45	27
Species/Subspecies:	299	66
Endemic:	37	10
Introduced:	22	
Ecoregions	19	4

Regions:

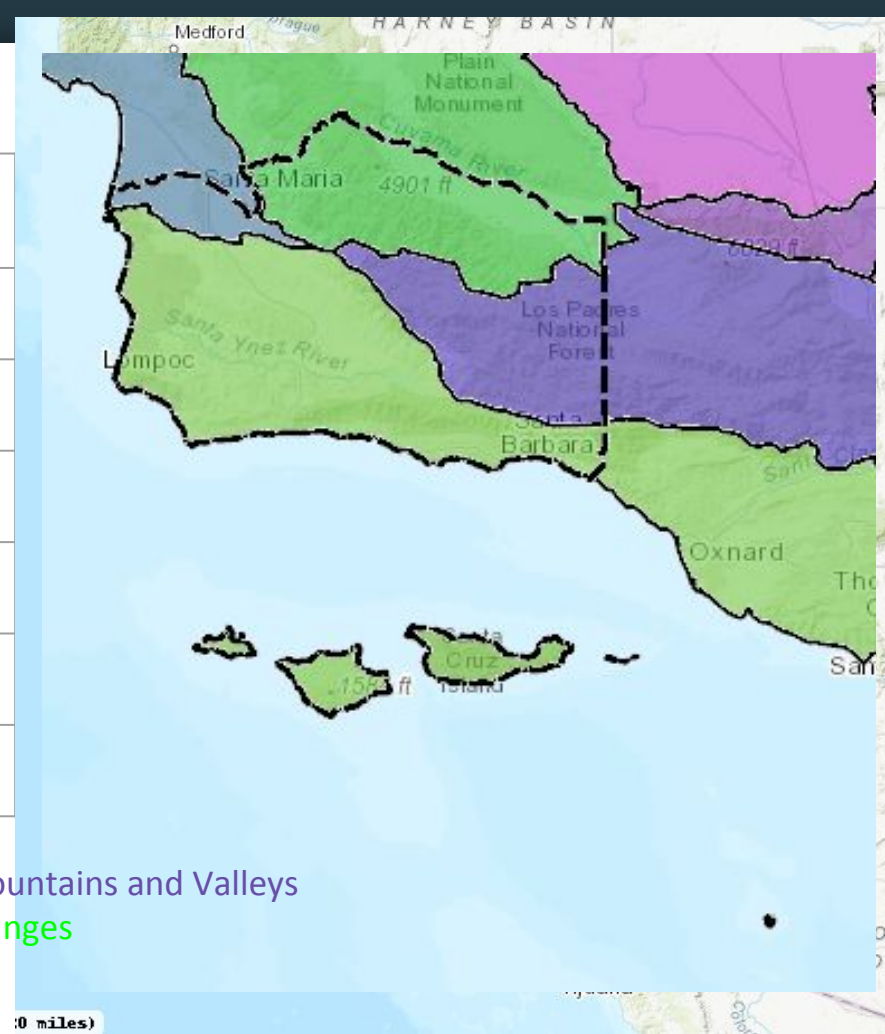
Southern California Coast

Central California Coast

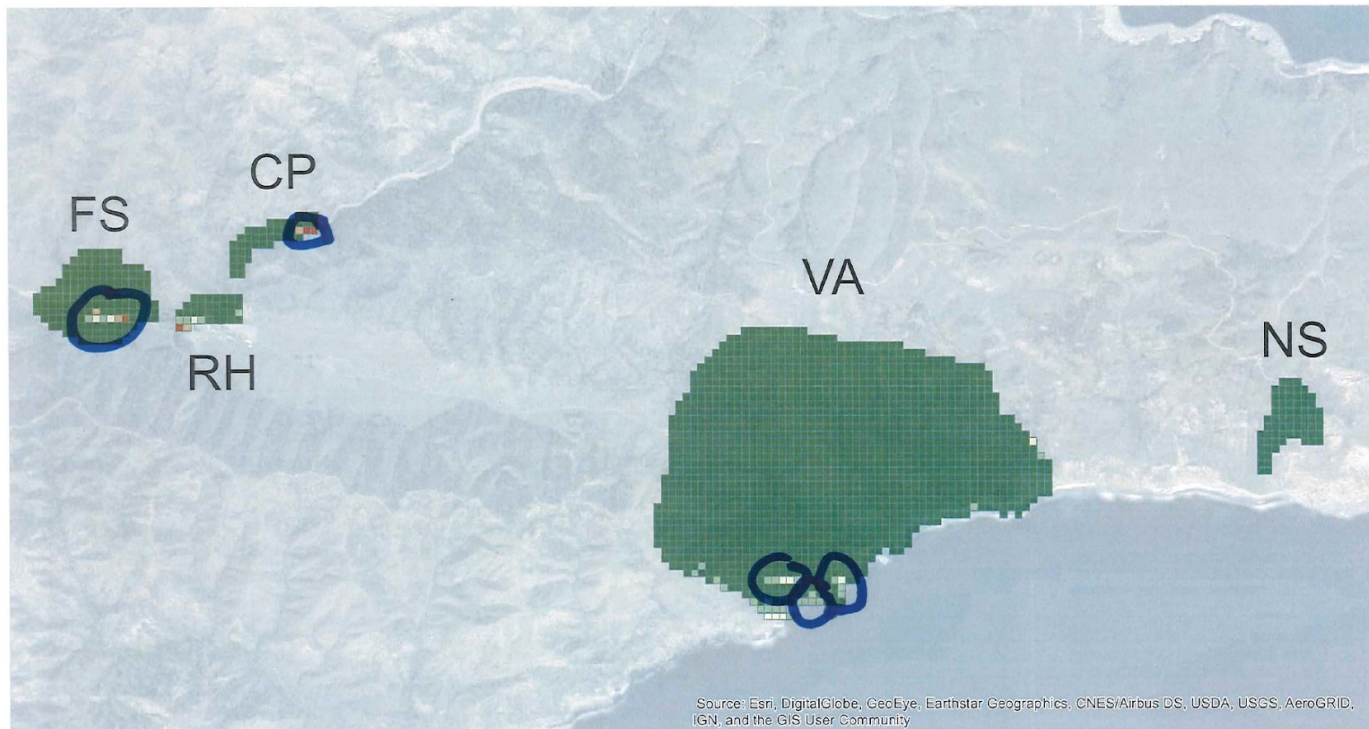
Southern California Mountains and Valleys

Central Valley Coast Ranges

California Ecoregions: Goudey, 2007

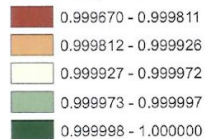


# Argentine ants on Santa Cruz

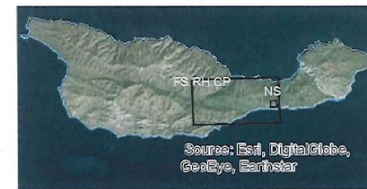


### Argentine Ant Survey Grid

#### Probability of eradication



<http://www.californiaislands.net/argentine-ants>





# Argentine ants on Santa Cruz Island 2017

- Formicidae: Dolichoderinae: *Linepithema humile*
- Santa Cruz Island Argentine ant eradication efforts 2013-2016
- UCSB Natural History Collections Club trip 2017



UCSB-IZC00010872



UCSB-IZC00010874

# *Atta mexicana*

- Formicidae: Myrmicinae: *Atta mexicana*
- Leafcutter Ant
- First known record in California; previously only in Arizona and Mexico-Texas border
- Lake Los Carneros 2018



CASENT0421379

<https://www.antweb.org/bigMap.do?taxonName=myrmicinaeatta%20mexicana&project=allantwebants>



# North Campus Open Space (NCOS) & Coal Oil Point Reserve (COPR)

- Collect and process specimens at NCOS & COPR
  - Including our own collecting at NCOS & COPR:
    - Baited & Non-baited traps (Pitfall and vials)
    - Leaf litter
- Database and analyze

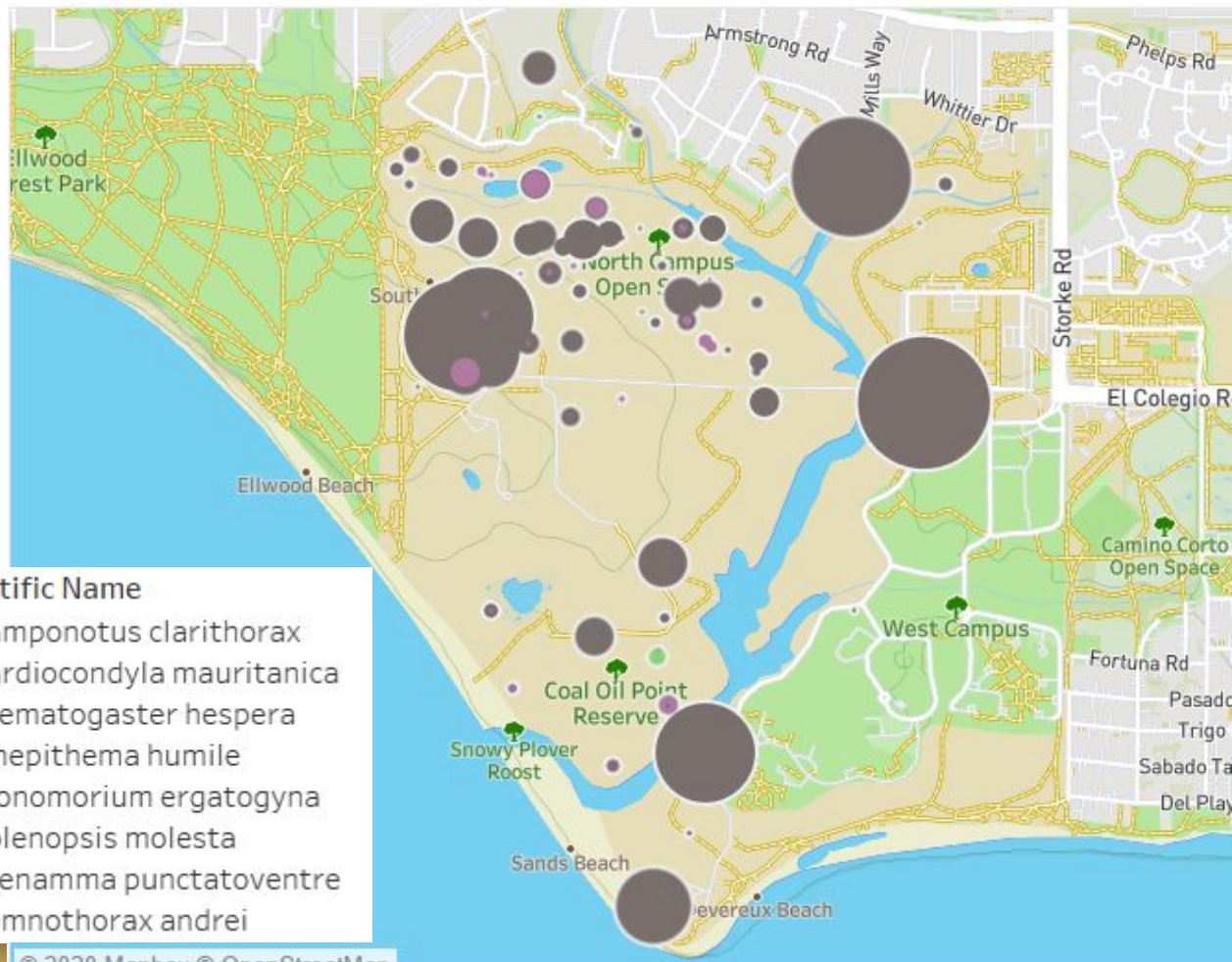


# North Campus Open Space & Coal Oil Point Reserve

Diversity in Pre-restoration and current  
restoration efforts

1 field season

NCOS/COPR Map



- Scientific Name
- Camponotus clarithorax*
  - Cardiocondyla mauritanica*
  - Crematogaster hespera*
  - Linepithema humile*
  - Monomorium ergatogyna*
  - Solenopsis molesta*
  - Stenamamma punctatoventre*
  - Temnothorax andrei*



CASENT0005683



CASENT0005781  
0.5 mm



CASENT0005805  
0.5 mm

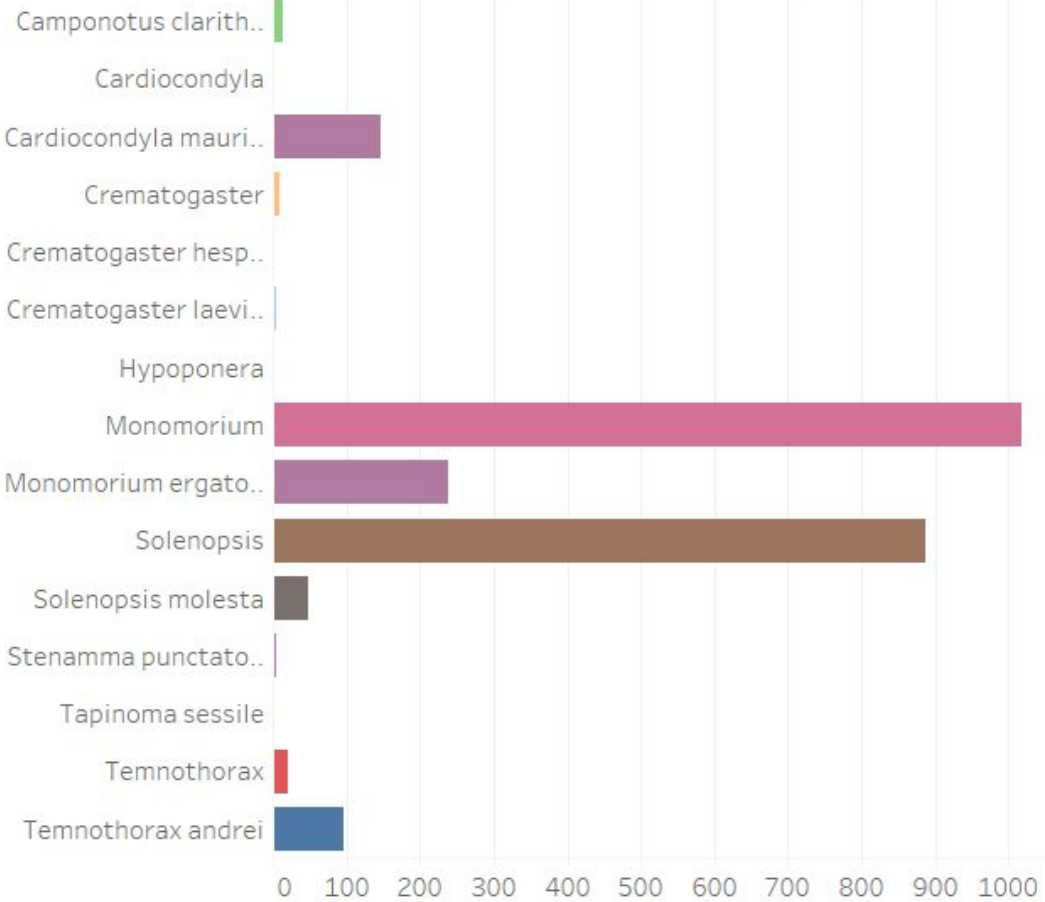


CASENT0005436  
0.5 mm

# # of Species at NCOS/COPR

## Nor

Scientific Name



1737

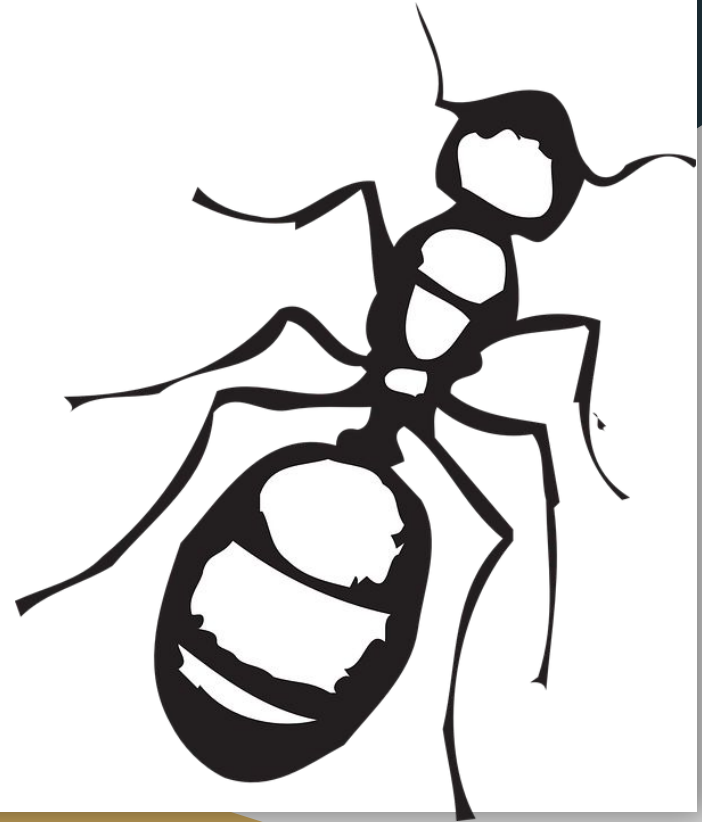
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2

Individual Count

## Future Goals

- Confirm identifications with experts
- Collaborations with other collections
  - Encourage to digitize specimens
- Field sampling of more ecoregions
  - Wider variety of collecting methods

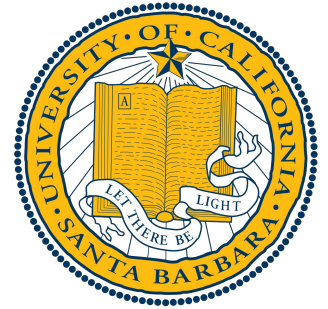


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- Charlie Braman

Check out the Checklist:

<https://symbiota.ccber.ucsb.edu/checklists/checklist.php?cl=11>



iNaturalist

