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

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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 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 occured 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

<table>
<thead>
<tr>
<th>Last Year</th>
<th>This Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Stats as of Oct 2017</td>
<td>Database Stats as of Oct 2018</td>
</tr>
<tr>
<td>Total records</td>
<td>1,412</td>
</tr>
<tr>
<td># Gooreferenced</td>
<td>863</td>
</tr>
<tr>
<td># of Families</td>
<td>66</td>
</tr>
<tr>
<td># of Genera</td>
<td>43</td>
</tr>
<tr>
<td># to Species</td>
<td>130</td>
</tr>
<tr>
<td># of Species</td>
<td>20</td>
</tr>
</tbody>
</table>

• 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

A Collection Changing the Campus

Discoveries

• Our digitized specimens make up 17th (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.

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