

Imaging spiders for the South Dakota Spider Survey: challenges and frustrations

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Overview

1. Background
2. Goals
3. Imaging challenges and frustrations



Background

- SDSS est. 2010
- > 100 specimens in Pfeiffer's personal collection in 2010
- Unknown number in SDSU Severn-McDaniel Insect Research Collection
 - Collection currently “misplaced”

Background (2013)

- Approx. 275 specimens in Pfeiffer's personal collection
- > 2500 specimens in 700 vials at DWU
- More than 260 species now documented in SD

DNA Barcodes



- Goal is to barcode all species found in SD



Dissemination of information

Barcode of Life

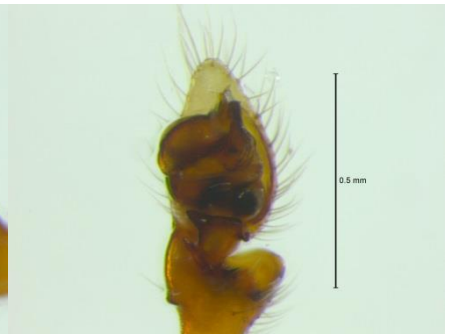
Identifying Species with DNA Barcoding



A screenshot of a web browser displaying the GenBank website. The address bar shows the URL 'http://www.ncbi.nlm.nih.gov/genbank/'. The browser's menu bar includes 'File', 'Edit', 'View', 'Favorites', 'Tools', and 'Help'. Below the menu bar, there are icons for home, print, page, safety, tools, and help. The main content area features a search bar with 'GenBank' and a dropdown menu set to 'Nucleotide'. Below the search bar are several navigation tabs: 'GenBank', 'Submit', 'Genomes', 'WGS', and 'HTGs'. The page title is 'GenBank Overview'. The main text begins with the heading 'What is GenBank?' followed by a paragraph: 'GenBank® is the NIH genetic sequence database, an annotated collection 2013 Jan;41(D1):D36-42. GenBank is part of the International Nucleotide DataBank of Japan (DDBJ), the European Molecular Biology Laboratory (E exchange data on a daily basis.'


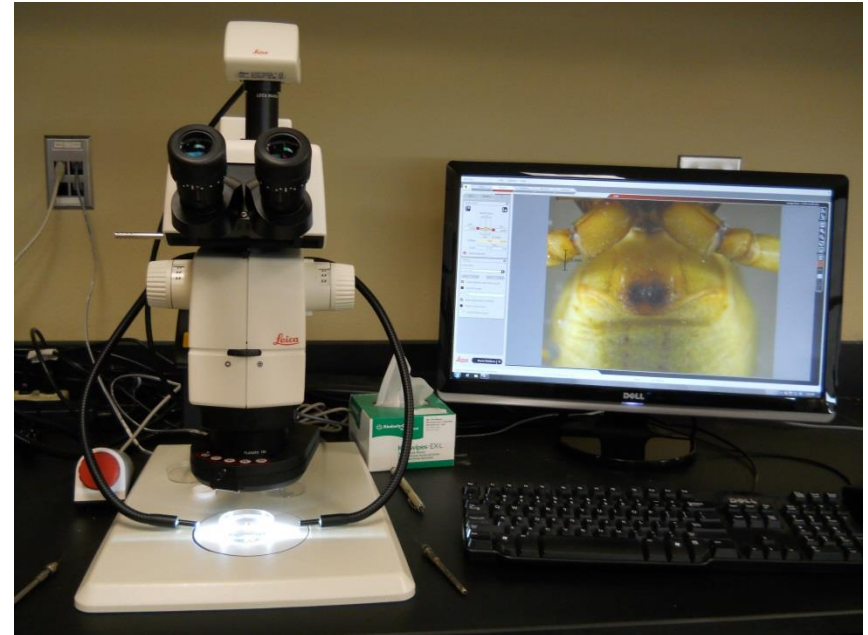
Imaging

Erigone atra Blackwall, 1833. Male from Mitchell, SD.




Imaging

- Leica M205C
- Fully automated (except zoom)



Leica Application Suite



<http://www.leica-microsystems.com>
Current User: brpatric
Licence: 5 option(s) Fully licensed
22 option(s) Not licensed

Leica Application Suite
Version 3.8.0 [Build : 878]

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Leica Microsystems CMS GmbH.
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Montage - Copyright© 2006-2011 Synoptics Ltd.

Included Application Information:
LAS Version 3.8.0 [Build : 878]



- Used to hold specimens in place.
- Large drop in petri dish
- Barely cover with EtOH
- Place specimen or structure on top of lubricant drop
- Add more EtOH if necessary



Imaging



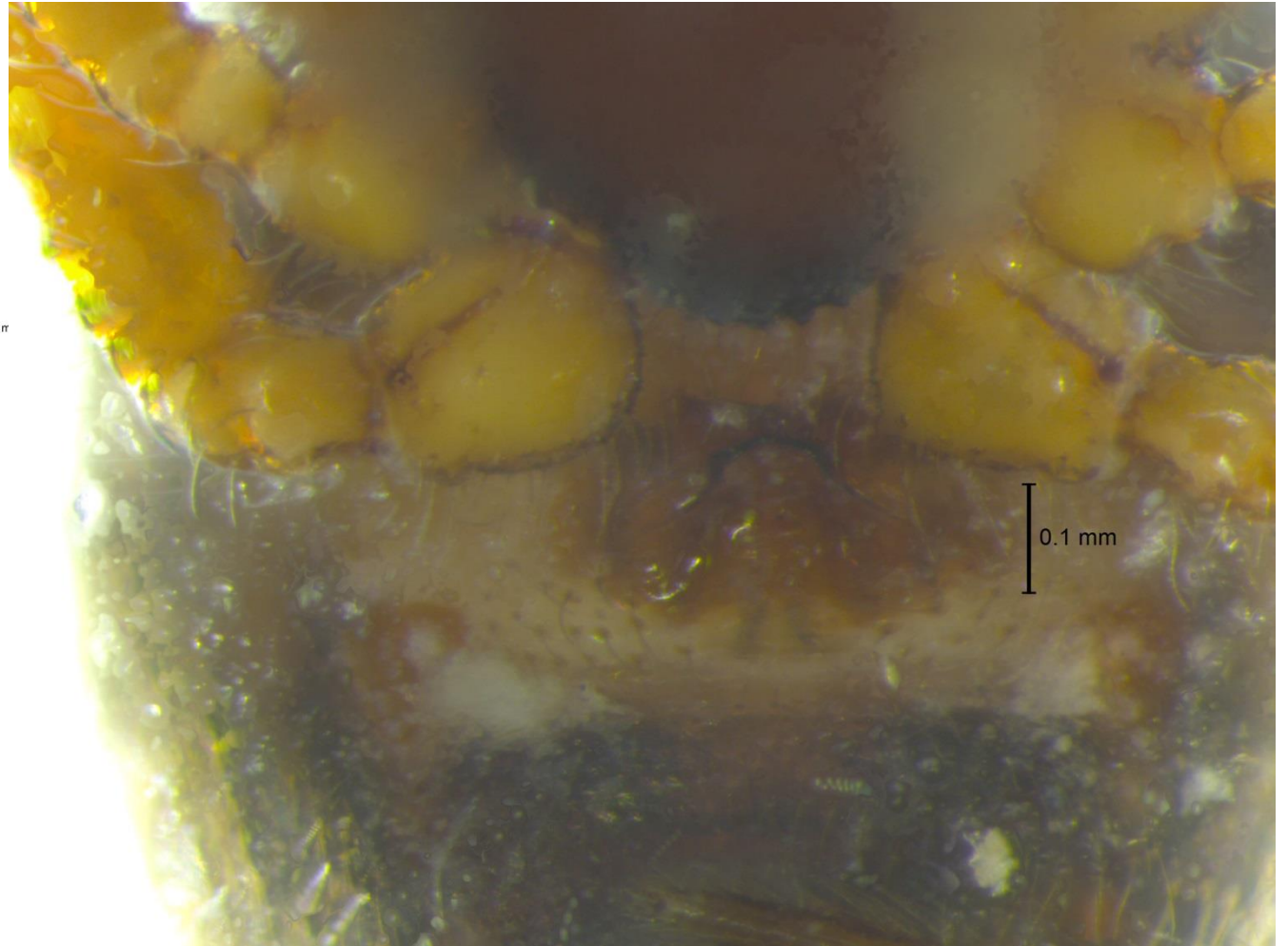
- Click to start, click to end.
- Biggest challenges are lighting!



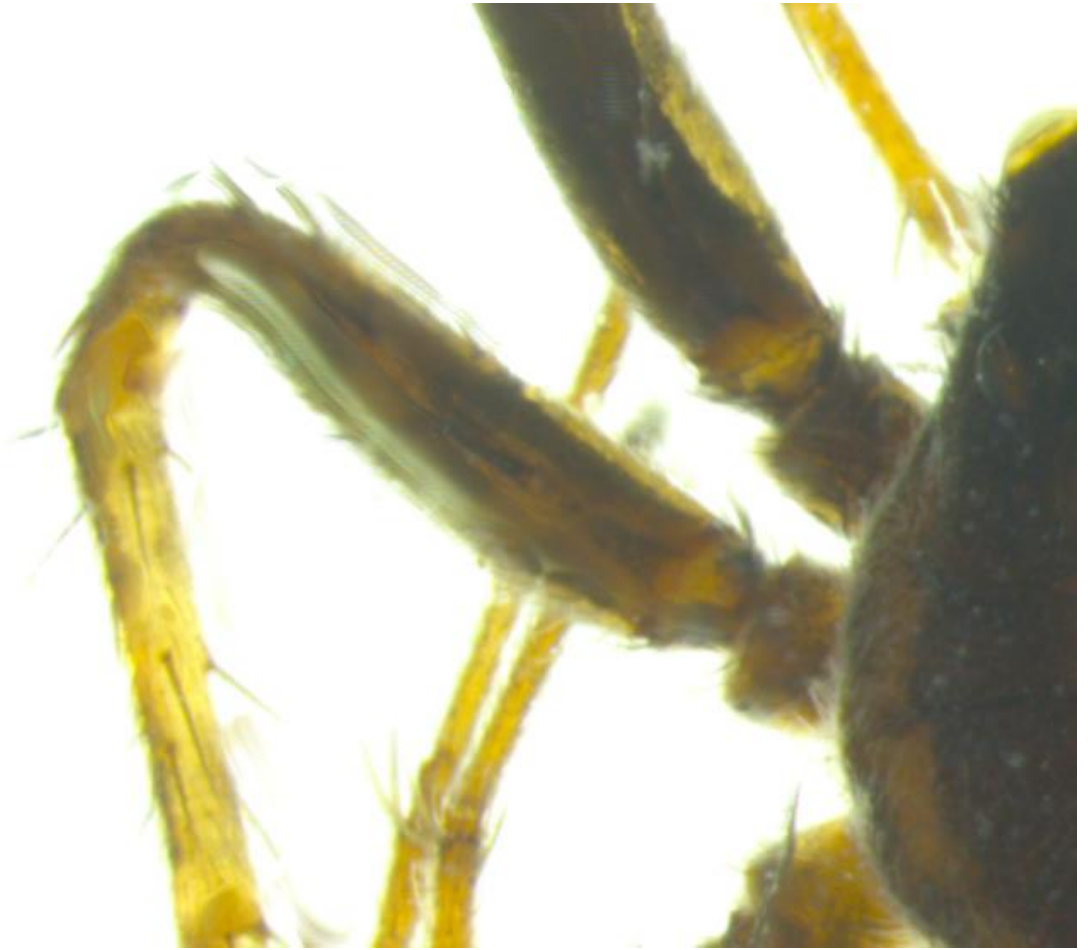
- Can process pictures, but often don't have all of the expertise to know how to adjust and still get a good picture!



1 mm



0.1 mm





2 mm



0.5 mm

Acknowledgments

- iDigBio grant for funding this workshop!
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