

# Jill T. Oberski, Ph.D.

Senckenberg Gesellschaft für Naturforschung Entomology / Dr. Jill Oberski Mertonstrasse 17–21 60325 Frankfurt am Main, Germany jtoberski@gmail.com | https://jilloberski.com

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## **Doctor of Philosophy, Entomology**

September 2017 – July 2023 Advised by Dr. Philip S. Ward // University of California, Davis, CA

Bachelor of Arts, Biology Bachelor of Arts, German Studies

Class of 2016 - cum laude // Macalester College, Saint Paul, MN

### RESEARCH EXPERIENCE

Postdoctoral Researcher | 2024 – 2026 | Senckenberg Gesellschaft für Naturforschung

- Developing an independent research program on the following topics:
  - evolution of social parasitism in eusocial insects
  - historical biogeography of the Nearctic region
  - o population genetics of selected species complexes
- Pursuing and managing third party funding.
- Providing curatorial support to the SGN entomological collections in Frankfurt.
- Participating in museum-run public outreach events and assisting educators as needed.

Postdoctoral Visiting Scientist | 2023–2024 | Smithsonian National Museum of Natural History

- Utilized the NMNH ant collection to advance my Nearctic *Dorymyrmex* taxonomic revision
- Received hands-on training in specimen macrophotography (MacroPod)
- Photographed type specimens and coordinated their upload to open access databases

#### Graduate Student Researcher | 2017 – 2023 | University of California Davis

- Curated, databased, and imaged ant specimens for the UC Davis insect collection.
- Extracted DNA and prepared samples for high-throughput next-generation sequencing.
- Delimited species by integrating traditional morphological taxonomy with phylogenomics.
- Manipulated genomic data, operated bioinformatics software, and ran intensive phylogenetic analyses on remote servers.
- Wrote and ran code in Linux/Unix terminal, R, and Python.

### **Research Intern** | 2016 – 2017 | University of Wisconsin Madison

- Completed the first molecular phylogenetic analysis of Assamiidae harvesters (Opiliones).
- Implemented lab organization schemes and maintained arthropod colonies.

## Research Assistant | 2014 – 2016 | Macalester College

- Investigated the phylogeny and divergence dates of *Austropurcellia* mite harvestmen.
- Independently performed Sanger sequencing techniques including PCR, gel electrophoresis, and DNA quantification.
- Taught myself ML and Bayesian phylogenetics software including MrBayes and BEAST.

## **Lab Inventory Assistant** | 2014 – 2016 | Macalester College

- Performed curatorial work sprucing up Macalester College's neglected insect collection.
- Reorganized drawers, added student collections, and identified specimens to family.

#### TEACHING EXPERIENCE

## Instructor, Senckenberg-Schule | 2024 | Senckenberg Natural History Museum

- Co-teaching Entomology for a curatorial assistantship two-year degree program.
- Topics: Insect identification, collection tools and methods, and laboratory skills.

## **Training: Seminar on College Teaching** | 2022 | University of California Davis

- Learned how to implement evidence-based, DEI-infused teaching practices.
- Applied integrated course design and active learning principles to traditional lessons.
- Created essential elements of a teaching portfolio, including a course syllabus.

### Instructor, Vineyard Ant Identification | 2022 | UC Cooperative Extension, Sonoma & Napa Co.

- Led six workshops in Sonoma and Napa counties for vineyard managers, growers, and integrated pest management specialists.
- Introduced students to technical taxonomic information at an accessible level.
- Emphasized cooperative, hands-on practice using dissecting microscopes and an ID key.

### Teaching Assistant, Intro Bio: The Tree of Life | 2021 – present | University of California Davis

- Independently teaching two lab sections per quarter of BIS 002C introductory biology.
- Leading students through lab manual activities and teaching presentation skills.
- Coordinating Zoom meetings with many participants, breakout rooms, and screen sharing.
- Gently evaluating student mental health and barriers to learning during the COVID-19 pandemic and responding appropriately.

### Teaching Assistant, Natural History of Insects | 2018 - present | University of California Davis

- Helping facilitate Natural History of Insects, an entomology course taught by grad students.
- Integrating classroom technologies such as TopHat and remote access.
- Lecturing 1-2 times per quarter on the following topics:
  - o Cultural Entomology (2018, 2019, 2020)
  - o Insects of Davis / Household and Garden Arthropods (2019, 2020)

# Course Development, Natural History of Insects | 2017 – 2018 | University of California Davis

- Reviewed pedagogical techniques with other graduate students and a faculty advisor.
- Worked together to bring ENT 010 from course concept to syllabus to fruition.
- ENT 010, Natural History of Insects, was first offered Winter Quarter 2018.

# **Teaching Assistant, Biodiversity and Evolution** | 2015 – 2016 | Macalester College

- Guided students through complex material in BIOL 270.

- Led exam review sessions, recorded video tutorial screencasts, and graded assignments.

# Training: Education & Emerging Technologies | 2015 | Macalester College

- Learned to use 15+ classroom and learning technologies, e.g. Kurzweil and OCR
- Course content emphasized accessibility aids for students with disabilities

### Student Manager, Digital Resource Center | 2014 – 2016 | Macalester College

- Trained faculty and students to use and troubleshoot creative media software, e.g. the Adobe suite, SketchUp, Final Cut Pro, iMovie, Audacity, GarageBand, and input from MIDI devices.

DUDLICATIONS		
PUDLICATIONS		

- **Oberski, J.T.**, *et al.* In preparation: Systematics of Nearctic *Dorymyrmex* (Hymenoptera: Formicidae), including a new key to species and insights into their natural history.
- Oberski, J.T.\*, Z.H. Griebenow\*, R.M.M. Adams, A. Andersen, J. Andrade-Silva, P. Barden, M. Borowiec, S. Braxy, S. Csősz, A.M. Dias, R.K.S. Dias, R.M. Feitosa, F. Fernandez, A. Casadei-Ferreira, B.L. Fisher, D.E.M. General, K. Gomez, M. Janda, A. Khalife, N. Ladino, Z. Lieberman, M. Menchetti, L. Pires do Prado, R.S. Probst, A. Punnath, A. Richter, R.R. Silva, S. Salata, A.F. Sánchez-Restrepo, E. Schifani, T.R. Schultz, J. Sosa-Calvo, M.C. Tocora, M.A. Ulysséa, W. Wang, J. Williams, G.P. Camacho\*\*, B.E. Boudinot\*\*. In review: Ant Systematics: Past, present, and future. Insect Systematics and Diversity. (\*Co-first authors. \*\*Co-last authors.)
- **Oberski, J.T.** In press: UCE phylogenomics illuminate the evolutionary history and biogeography of *Dorymyrmex* pyramid ants. *Systematic Entomology*.
- **Oberski, J.T.** A first phylogenomic assessment of the amphitropical New World ant genus *Dorymyrmex* (Hymenoptera: Formicidae), a longstanding taxonomic puzzle. 2022, *Insect Systematics and Diversity* 6(1): 1-8. <a href="https://doi.org/10.1093/isd/ixab022">https://doi.org/10.1093/isd/ixab022</a>
- Godfrey, R.K., T. Allmark, C. Givens, J. Hernandez-Rivera, **J.T. Oberski**, and W. Gronenberg. Olfactory system morphology suggests colony size drives trait evolution in odorous ants (Formicidae: Dolichoderinae). 2021, *Frontiers in Ecology and Evolution* 9:733023. <a href="https://doi.org/10.3389/fevo.2021.733023">https://doi.org/10.3389/fevo.2021.733023</a>
- **Oberski, J.T.** <u>Translation from German</u> of Remane, A. (1956), *Die Grundlagen des natürlichen Systems der vergleichende Anatomie und der Phylogenetik.* The fundamentals of the natural systems of comparative anatomy and phylogenetics, Chapter 2: The concept of homology and the criteria for homology. 2019, Available upon request.
- **Oberski, J.T.**, S.L. Boyer, K.A. Lemon, J.R. Johnson, K.R. Jay, M.J. Coblens, and P.P. Sharma. A dated molecular phylogeny of mite harvestmen (Arachnida, Opiliones, Cyphophthalmi) from Queensland, Australia. 2018, *Molecular Phylogenetics and Evolution* 127: 813-822. <a href="https://doi.org/10.1016/j.ympev.2018.06.029">https://doi.org/10.1016/j.ympev.2018.06.029</a>
- Sharma, P.P., C.M. Baker, J.G. Cosgrove, J.E. Johnson, J.T. Oberski, R.J. Raven, M.S. Harvey, & S.L. Boyer. A revised dated phylogeny of scorpions: Phylogenomic support for ancient divergence of the temperate Gondwanan family Bothriuridae. 2018, *Molecular Phylogenetics and Evolution* 122: 37-45. <a href="https://doi.org/10.1016/j.ympev.2018.01.003">https://doi.org/10.1016/j.ympev.2018.01.003</a>

- Sharma, P.P., **J.T. Oberski**, M.A. Santiago, R. Kriebel, S.M. Lipps, P.A.C. Buenavente, A.C. Diesmos, M. Janda, S.L. Boyer, R.M. Clouse, and W.C. Wheeler. There is no evidence that Podoctidae carry eggs of their own species: Reply to Machado and Wolff. 2017, *Molecular Phylogenetics and Evolution* 129: 349-353. <a href="https://doi.org/10.1016/j.ympev.2017.03.026">https://doi.org/10.1016/j.ympev.2017.03.026</a>
- Jay, K.R., Z.R. Popkin-Hall, M.J. Coblens, **J.T. Oberski**, P.P. Sharma, and S.L. Boyer. New species of *Austropurcellia*, cryptic short-range endemic mite harvestmen (Arachnida, Opiliones, Cyphophthalmi) from Australia's Wet Tropics biodiversity hotspot. 2016, *ZooKeys* 586: 37-93. https://doi.org/10.3897/zookeys.586.6774

#### FELLOWSHIPS & GRANTS

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2013	\$ 500	Language Learning Video Contest	Vista Higher Learning
2012-16	\$ 60,000	DeWitt Wallace Merit Scholarship	Macalester College
2017-20	\$ 90,000	Dean's Distinguished Graduate Fellowship	UC Davis Grad. Studies
2019	\$ 250	Graduate Student Assoc. Travel Grant	UC Davis GSA
2019	\$ 1,250	Ernst Mayr Grant in Insect Taxonomy	Harvard MCZ
2019	\$ 3,000	George H. Vansell Scholarship	UC Davis Entomology
2022	\$ 250	Graduate Student Assoc. Travel Grant	UC Davis GSA
2022	\$ 3,000	Professors For The Future Fellowship	UC Davis Grad. Studies

\$158,250 Sum Total 2012–2022

# NSF CONTRIBUTING PROJECTS

- AToL: Collaborative Research on Ant Phylogeny: A Comprehensive Evolutionary Tree for the World's Premier Social Organisms (2004). #DEB-0431330. Philip Ward, Brian Fisher, Ted Schultz, Sean Brady
- Collaborative Research: Camponotine Ants and their Little Helpers: Phylogenomics of a
   Hyperdiverse Insect Clade and its Bacterial Endosymbionts (CAnBE) (2019). #DEB-1856539.
   Philip Ward, Jennifer Wernegreen, Bonnie Blaimer, Brian Fisher
- Collaborative Research: Ants of the World (2019). #DEB-1932062. Philip Ward, Bonnie Blaimer, Brian Fisher, John Longino, Michael Branstetter

# MAJOR FIELD WORK

August 2021	USA: Utah and Nevada: Swasey Peak, Crystal Peak, Pine Valley	2 weeks
February 2020	Brazil: São Paulo, SP and Curitiba, PR	2 weeks
July 2019	USA: Nevada and California: White Mts, Esmeralda County	2 weeks
July 2018	USA: California and Nevada, broadly (Sagehen Field Station)	5 weeks
August 2018	French Guiana: Nouragues Field Station, Inselberg Camp	2 weeks

### HONORS & CERTIFICATES

2024	Presentation Award for Women Scientists (PAWS)
2024	Presentation Award for Young Scientists (PAYS)

2022 Nomina 2022 Branch 2020 Preside 2019 Preside 2019 GRFP 2018 Nationa 2018 Gradua 2016 Inductional	al Champion, Entomology Games ated: John Henry Comstock Award Champion, Entomology Games ent's Prize, First Place: Infographic ent's Prize, Second Place: Seminar ent's Prize, Second Place: Infographic (Graduate Research Fellowship): Hon. Mention al Champion, Entomology Games ate of the 17th Ant Course on into Delta Phi Alpha a McKnight Binger Prize for Excellence an Fluency Goethe-Zertifikat C1	Entomological Society of America Pacific Branch Ent. Soc. Amer. Pacific Branch Ent. Soc. Amer. Entomological Society of America Entomological Society of America Entomological Society of America Natl. Science Foundation (NSF) Entomological Society of America California Academy of Sciences National German Honor Society Macalester Coll. German Studies Goethe Institut Berlin	
GUEST AND	INVITED SEMINARS —		
2023 Insights 2023 Profess 2023 ENT 0 2022 ENT 0 2022 BIOL 4 2021 ENT 0 2020 ENT 0 2020 Sympo 2019 ENT 0 2018 ENT 0 2018 Q&A P	pical <i>Dorymyrmex:</i> Evol. & Taxonomy Grupo des from <i>Dorymyrmex</i> Phylogenomics sors for the Future – 3 panels on Mental Illness 10: Nat. Hist. of Insects – 2 lectures 10: Nat. Hist. of Insects – 2 lectures 76: Research in Biodiversity and Evolution 10: Nat. Hist. of Insects – 2 lectures 10: Nat. Hist. of Insects – 10: Nat. Hist. of Insects – 2 lectures 10: Nat. Hist. of Insects – 10: Nat. Hist. of Insec	Estudio de Hormigas Neotropicales Entomol. Society of Washington UC Davis Grad. Studies UC Davis Ento. & Nem. UC Davis Ento. & Nem. Macalester College Biology UC Davis Ento. & Nem. UC Davis Ento. & Nem. Entomology 2020 UC Davis Ento. & Nem. UC Davis Mental Health Conf. Macalester College Biology	
SERVICE &	PROFESSIONAL DEVELOPMENT ———		
<ul> <li>2021 – 2023 Graduate Student Advisor, Transfer Research Society</li> <li>2022 Faculty Hiring Committee, Agricultural Nematologist, UCD Ento. &amp; Nem.</li> <li>2020 – 2022 President, UCD Entomology Graduate Student Association (EGSA)         <ul> <li>Liaison to faculty and hiring committees; coordinating events incl. Picnic Day</li> </ul> </li> <li>2021 Mentor, Ecology and Evolutionary Biology (EEB) Mentor Match</li> <li>2019 – 2020 Graduate Admissions Committee, UCD Ento. &amp; Nem.</li> <li>2018 – 2020 Treasurer, UCD Entomology Graduate Student Association (EGSA)</li> <li>2018 – 2019 Dept. Retreat Committee, UCD Ento. &amp; Nem.</li> <li>2018 California Academy of Sciences Ant Course, French Guiana</li> </ul>			
OUTREACH, EQUITY, & #SciComm			
2024 2024 2022 – 2023 2018 – 2023	Skype A Scientist: 3 presentations to a variety of at Senckenberg Girls' Day  Dept. Committee on Faculty Mentorship, UCD Entor Picnic Day, UC Davis  Campus wide annual event drawing thousand	o. & Nem.	

Campus-wide annual event drawing thousands of people to our exhibits.

In 2021 (virtual), created <u>"Ants of Davis" YouTube video</u>.

2017 – 2023 Maintaining a "survival guide" for new Ento. graduate students in Davis

2020 – 2022	Dept. Committee on Diversity, Equity, Inclusion, and Belonging, UCD Ento. & Nem.
2020 - 2022	Graduate Committee on Diversity, Equity, and Inclusion, UCD Ento. Graduate Group
2017 – 2022	Girls' Outdoor Adventure in Leadership and Science (GOALS) @ UC Davis
	yearly, immersive, FREE summer science backpacking trip for diverse high school
	girls and non-binary youth. Personally developed the public website and design.
2021	Program Leader, GOALS @ UC Davis
	citizen science projects, birds and pollinators, data analysis, outdoor experiences and privileges to access, indigenous history, college apps and financial aid
2021	UC Davis Envision program
	meeting with first-generation / underrepresented minority prospective students
2021	Podcast guest: "Ant-Man" subject expert on "The Marvels of Science"
2020 - 2021	Skype A Scientist: 10 presentations to a wide variety of audiences
2019	California Honey Festival

### CONFERENCE PRESENTATIONS

- \*2024 **Seminar:** "Neotropical paleoclimate, Andean orogeny, and the Isthmus of Panama: UCEs illuminate the evolution of the 'pyramid ants' (Formicidae: *Dorymyrmex*)." *International Congress of Entomology, Kyoto, Japan.*
- 2024 **Seminar:** "Puzzling taxonomy, ongoing speciation, and social parasitism: The case of the Nearctic pyramid ants (Formicidae: *Dorymyrmex*)." *International Union for the Study of Social Insects Central European Section, Lausanne, Switzerland.*
- **Seminar:** "Intercontinental range expansion in the arid-adapted pyramid ants (Formicidae: *Dorymyrmex*)." *Entomology, National Harbor, MD, USA.*
- **Seminar:** "Dorymyrmex evolution and taxonomy: UCE phylogenomics illuminates a persistent puzzle." XXVI Simpósio de Mirmecologia: An international ant meeting, Manaus, Amazonas, Brazil.
- 2022 **Seminar:** "Historical biogeography of the pyramid ants (Formicidae: *Dorymyrmex*)." *International Union for the Study of Social Insects, San Diego, CA, USA.*
- 2022 **Seminar:** "Intercontinental range expansion in the arid-adapted pyramid ants (Formicidae: *Dorymyrmex*)." *Entomology, Vancouver, BC, Canada.*
- 2022 **Seminar:** "UCE phylogenomics clarifies classical taxonomy in the pyramid ants, genus *Dorymyrmex* (Hymenoptera: Formicidae)." *Pacific Branch Ent. Soc. Amer., Santa Rosa, CA.*
- 2021 **Seminar:** "Arid-adapted pyramid ants (Formicidae: *Dorymyrmex)* show an amphitropical distribution and an ongoing radiation." *Entomology, Denver, CO.*
- \*2020 Infographic Poster: "Why do Museum Collections Matter?" Entomology (virtual).
- \*2019 **Seminar:** "Unraveling the Phylogeny and Biogeography of *Dorymyrmex*, a New World Amphitropical Disjunct." *Entomology, St. Louis, MO*.
- \*2019 **Infographic Poster:** "Discovery and Diversity: The Importance of Systematic Entomology in Today's World." *Entomology, St. Louis, MO.*
- 2017 **Seminar:** "India as a 'Biotic Ferry': Systematics and Biogeography of the Harvestman Family Assamiidae." Oberski, J.T., P.P. Sharma, and S.L. Boyer. *Society for Integrative and Comparative Biology, New Orleans, LA.*
- 2016 **Group Poster:** "A dated molecular phylogeny for *Austropurcellia*, short-range endemic mite harvestmen (Cyphophthalmi, Pettalidae) from the Australian Wet Tropics." *Int'l Congress on Arachnology, Golden, CO.*
- 2016 **Group Poster:** "Systematics and Biogeography of Mite Harvestmen from Australia's Wet Tropics." *Society for Integrative and Comparative Biology, Portland, OR.*

<sup>\*</sup> Prize recognition

# SOCIETIES & PEER REVIEWS

Entomological Society of America (ESA)

International Branch

Systematics & Evolutionary Biology (SysEB)

International Union for the Study of Social Insects (IUSSI)

North American Section (NAS)

Central European Section (CÉS)

International Society of Hymenopterists (ISH)

Entomological Collections Network (ECN)

American Association of University Women (AAUW)

American Association for the Advancement of Science (AAAS)

### Peer Reviews:

European Journal of Taxonomy	1
Insect Systematics and Diversity	2
Myrmecological News	1
PeerJ	1
Systematic Biology	1
Zoological Research	1
ZooTaxa	1