

# Jill T. Oberski, Ph.D.

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

# EDUCATION

# 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:
  - o evolution of social parasitism in eusocial insects
  - historical biogeography of the Nearctic region
  - 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:
    - Cultural Entomology (2018, 2019, 2020)
    - 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.

#### PUBLICATIONS

- Oberski, J.T.\*, Z.H. Griebenow\*, R.M.M. Adams, A. Andersen, J. Andrade-Silva, P. Barden, M. Borowiec, S. Brady, 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.** UCE phylogenomics illuminates the evolutionary history and biogeography of *Dorymyrmex* pyramid ants. *Systematic Entomology* 50(2): 325-348. <u>https://doi.org/10.1111/syen.12658</u>
- **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. <u>https://doi.org/10.1093/isd/ixab022</u>
- 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. <u>https://doi.org/10.3389/fevo.2021.733023</u>
- **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, <u>Available upon request.</u>
- **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. https://doi.org/10.1016/j.ympev.2018.06.029
- 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. <u>https://doi.org/10.1016/j.ympev.2018.01.003</u>

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. <u>https://doi.org/10.1016/j.ympev.2017.03.026</u>

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

|         | \$160,750 | Sum Total 2012–2025                      |                        |
|---------|-----------|--|------------------------|
| 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 |
| 2024    | \$ 2,500  | Ernst Mayr Grant in Insect Taxonomy      | Harvard MCZ            |
|         |           |  |                        |

# 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, Séan 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) Intl. Congress of Entomology Kyoto

| 2024 | Presentation Award for Young Scientists (PAYS)    | Intl. Congress of Entomology Kyoto |
|------|---|------------------------------------|
| 2023 | Nominated: John Henry Comstock Award              | Pacific Branch Ent. Soc. Amer.     |
| 2023 | National Champion, Entomology Games               | Entomological Society of America   |
| 2022 | Nominated: John Henry Comstock Award              | Pacific Branch Ent. Soc. Amer.     |
| 2022 | Branch Champion, Entomology Games                 | Pacific Branch Ent. Soc. Amer.     |
| 2020 | President's Prize, First Place: Infographic       | Entomological Society of America   |
| 2019 | President's Prize, Second Place: Seminar          | Entomological Society of America   |
| 2019 | President's Prize, Second Place: Infographic      | Entomological Society of America   |
| 2019 | GRFP (Graduate Research Fellowship): Hon. Mention | Natl. Science Foundation (NSF)     |
| 2018 | National Champion, Entomology Games               | Entomological Society of America   |
| 2018 | Graduate of the 17 <sup>th</sup> Ant Course       | California Academy of Sciences     |
| 2016 | Induction into Delta Phi Alpha                    | National German Honor Society      |
| 2016 | Virginia McKnight Binger Prize for Excellence     | Macalester Coll. German Studies    |
| 2014 | German Fluency Goethe-Zertifikat C1               | Goethe Institut Berlin             |

GUEST AND INVITED SEMINARS

Systematics and Biogeography of Dorymyrmex ants British Museum of Natural History Hope College Grupo de 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 Ento, & Nem. UC Davis Mental Health Conf. 2016 BIOL 476: Research in Biodiversity & Evolution Macalester College Biology

2025 The Charismatic "Pyramid Ants" and Their Impact 2024 2024 Neotropical *Dorymyrmex:* Evol. & Taxonomy 2023 Insights from Dorymyrmex Phylogenomics 2023 Professors for the Future – 3 panels on Mental Illness 2023 ENT 010: Nat. Hist. of Insects – 2 lectures 2022 ENT 010: Nat. Hist. of Insects – 2 lectures 2022 BIOL 476: Research in Biodiversity and Evolution 2021 ENT 010: Nat. Hist. of Insects – 2 lectures 2020 ENT 010: Nat. Hist. of Insects – 2 lectures 2020 Symposium: Global Advances in Ant Phylogenomics 2019 ENT 010: Nat. Hist. of Insects – 2 lectures 2018 ENT 010: Nat. Hist. of Insects – "Insects in Culture" 2018 **Q&A Panelist: Mental Illness and Disability** 

SERVICE & PROFESSIONAL DEVELOPMENT

| h Republic<br>rica<br>Day |
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OUTREACH, EQUITY, & #SciComm

| 2025        | Senckenberg Girls' Day   |
|-------------|--|
| 2024        | Skype A Scientist: 3 presentations to a variety of audiences   |
| 2024        | Senckenberg Girls' Day   |
| 2022 – 2023 | Dept. Committee on Faculty Mentorship, UCD Ento. & Nem.  |
| 2018 – 2023 | Picnic Day, UC Davis   |
|             | 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

\* Prize recognition

- **Seminar:** "Puzzling taxonomy, ongoing speciation, and social parasitism: The case of the Nearctic pyramid ants (Formicidae: *Dorymyrmex*)." *Entomological Society of America International Branch, Virtual Conference.*
- **Seminar:** "Puzzling taxonomy, ongoing speciation, and social parasitism: The case of the Nearctic pyramid ants (Formicidae: *Dorymyrmex*)." *International Society of Hymenopterists, Hymathon 24-Hour Virtual Conference.*
- \*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.*
- **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.
- **Seminar:** "Historical biogeography of the pyramid ants (Formicidae: *Dorymyrmex*)." *International Union for the Study of Social Insects, San Diego, CA, USA.*
- **Seminar:** "Intercontinental range expansion in the arid-adapted pyramid ants (Formicidae: *Dorymyrmex)." Entomology, Vancouver, BC, Canada.*
- **Seminar:** "UCE phylogenomics clarifies classical taxonomy in the pyramid ants, genus *Dorymyrmex* (Hymenoptera: Formicidae)." *Pacific Branch Ent. Soc. Amer., Santa Rosa, CA.*
- **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.*

#### 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 (CES) 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:

| Biological Journal of the Linnean Society | 1 |
|---|---|
| Ecology and Evolution                     | 1 |
| European Journal of Taxonomy              | 1 |
| Insect Systematics and Diversity          | 4 |
| Myrmecological News                       | 1 |
| PeerJ                                     | 1 |
| Systematic Biology                        | 1 |
| Zoological Research                       | 1 |
| ZooKeys                                   | 1 |
| ZooTaxa                                   | 1 |
|   |   |