Matthew M. Prebus, PhD.
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EDUCATION

2018 PhD, Entomology. University of California, Davis, CA. Philip S. Ward, advisor.
Dissertation title: Phylogeny, taxonomy, biogeography, character evolution, and species delimitation in the ant genus *Temnothorax* (Hymenoptera: Formicidae), with a focus on the *salvini* clade.
2010 BS/BA, Biology. The Evergreen State College, Olympia, WA.

SCIENTIFIC POSITIONS

2024- Assistant Research Professor. Arizona State University
2023-2024 Assistant Research Scientist. Joint appointment between Arizona State University, U.S.A. and University of Hohenheim, Germany.
2018-2022 Postdoctoral Scholar. Arizona State University.
2011-2018 Research Assistant to Dr. Philip Ward. University of California, Davis.
2010-2011 Research Assistant to Dr. John Longino. The Evergreen State College.

AWARDS

2016 Student Travel Research Award from Entomological Society of America.
2016 Ernst Mayr Travel Award from Harvard University, Cambridge, MA
2015 Henry A. Jastro Research Award from University of California, Davis, CA.
2014 Ernst Mayr Travel Award from Harvard University, Cambridge, MA
2014 Henry A. Jastro Research Award from University of California, Davis, CA.
2014 Charles R. Duncan Travel Grant from University of California, Davis, CA.
2013 Henry A. Jastro Research Award from University of California, Davis, CA.
2013 Charles R. Duncan Travel Grant from University of California, Davis, CA.

GRANTS

2020 Contributed to writing proposal for Hungarian Scientific Research Fund (OTKA) grant 135795: "Morphological evolution in Western Palaearctic *Temnothorax* Mayr (Hymenoptera, Formicidae) ant lineages in association with phylogenomic distance and emerging reproductive barriers": **$126,890**
2019 Contributed to writing proposal for National Science Foundation (NSF) CAREER grant DEB-1943626: "Exploring the patterns and mechanisms of ant social parasite speciation and evolution: integrating teaching and research to foster biodiversity discovery in organismal evolution": **$991,826**

PUBLICATIONS

Csősz S., Alicata A., Báthori F., Reyes-López J.L., Schifani E., Taheri A., **Prebus M.M.** 2025. Taxonomic revision of the Mediterranean *Temnothorax rottenbergii* species group via integrated morphological and molecular approaches. *Insect Systematics and Diversity*, 9(6), ixaf045.

Oberski, J. T., Griebenow, Z. H., Adams, R. M., Andersen, A., Andrade-Silva, J., Barden, P., ... **Prebus, M.**, ... & Boudinot, B. E. (2025). Ant systematics: past, present, and future. *Insect Systematics and Diversity*, 9(4), 11.

Prebus M.M. & Rabeling C. 2025. Phylogenomics resolve the systematics and biogeography of the ant tribe Myrmicini and tribal relationships within the hyperdiverse ant subfamily Myrmicinae. *Systematic Biology* syaf022.

Schifani E., Alicata A., **Prebus M. M.** & Csősz S. 2025. Integrative Description of *Temnothorax siculus* sp. n.: A New Ant Species from Sicily, Italy (Hymenoptera, Formicidae). *Diversity* 17(4), 294.

Csősz S., Alicata A., Báthori F., Galkowski C., Schifani E., Yusupov Z., Herczeg G., **Prebus M.** 2025. Integrative taxonomy reveals inflated biodiversity in the European *Temnothorax unifasciatus* complex (Hymenoptera: Formicidae). *Zoologica Scripta,* 54(1), 33-49.

Prebus M.M., Nguyen N., Doering G.N. & Booher D.B. 2024. *Temnothorax caryaluteus* sp. nov. (Hymenoptera: Formicidae): a new ant species from the eastern United States. *European Journal of Taxonomy*. 70: 175–202. https://doi.org/10.5852/ejt.2024.970.2757

Doering G.N., **Prebus M.M.**, Suresh S., Greer J.N., Bowden R., & Linksvayer T.A. 2024. Emergent collective behavior evolves more rapidly than individual behavior among ant species. *PNAS* 121 (48) e2420078121. https://doi.org/10.1073/pnas.2420078121

Csősz S., Schifani E., Seifert B., Alicata A., **Prebus M.M.** 2024. A new species of yellow acorn ant discovered in Italy via integrative taxonomy (*Temnothorax luteus*-complex, Formicidae). *Evolutionary Systematics* 8: 183-197. https://doi.org/10.3897/evolsyst.8.124557

Yan J., **Prebus M.M.** 2024. Variability of nest relocation behaviour among acorn ant species. *Insectes Sociaux.* https://doi.org/10.1007/s00040-024-00950-x.

Prebus M.M., Georgiev B.B., van de Kamp T., Hamann E., Baker I., & Rabeling C. 2023. The rediscovery of the putative ant social parasite *Manica parasitica* syn. nov. (Hymenoptera: Formicidae) reveals an unexpected endoparasite syndrome. *Biology Letters* 19: 20230399. https://doi.org/10.1098/rsbl.2023.0399.

Doering G.N., & **Prebus M.M.** 2023. A Southern Record of the Xenobiotic Ant *Formicoxenus quebecensis* from Eastern Wisconsin. *Sociobiology* 70: e8374-e8374. https://doi.org/10.13102/sociobiology.v70i2.8374.

Schifani E., **Prebus M.M.** & Alicata A. 2022. Integrating morphology with phylogenomics to describe four island endemic species of *Temnothorax* from Sicily and Malta (Hymenoptera, Formicidae). *European Journal of Taxonomy* 833: 143–179. https://doi.org/10.5852/ejt.2022.833.1891.

Boudinot B.E., Borowiec M.L. & **Prebus M.M.** 2022. Phylogeny, evolution, and classification of the ant genus *Lasius*, the tribe Lasiini and the subfamily Formicinae (Hymenoptera: Formicidae). *Systematic Entomology* 47: 113-151. https://doi.org/10.1111/syen.12522.

Prebus M.M. 2021. Taxonomic revision of the *Temnothorax salvini* clade (Hymenoptera: Formicidae), with a key to the clades of New World *Temnothorax*. *PeerJ* 9: 11514. https://doi.org/10.7717/peerj.11514.

Prebus M.M. 2021. Phylogenomic species delimitation in the ants of the *Temnothorax salvini* group (Hymenoptera: Formicidae): an integrative approach. *Systematic Entomology* 46: 307-326. https://doi.org/10.1111/syen.12463.

Csősz S., Seifert B., Mikó I., Boudinot B.E., Borowiec M.L., Fisher B.L., **Prebus M**., Puniamoorthy J., Rakotonirina J.C., Rasoamanana N. & Schultz R. 2021. Insect morphometry is reproducible under average investigation standards. *Ecology and evolution* 11: 547-559. https://doi.org/10.1002/ece3.7075.

Rasheed M. T., Bodlah I., Magomedovich Y. Z., Fareen A. G. E., Bodlah M. A., **Prebus M.** & Wachkoo A. A. 2020. Preliminary contributions toward a revision of the ant genus *Temnothorax* Mayr (Hymenoptera: Formicidae) from Pakistan. *Turkish Journal of Zoology* 44: 375-381. https://doi.org/10.3906/zoo-2003-54.

Booher D.B., **Prebus M.** & Lubertazzi, D. 2019. A taxonomic revision of the *Strumigenys nitens* and *simulans* groups (Hymenoptera: Formicidae), two Caribbean radiations of leaf litter ants. *Zootaxa* 4656: 335-358. https://doi.org/10.11646/zootaxa.4656.2.7.

Prebus M. 2017. Insights into the evolution, biogeography and natural history of the acorn ants, genus *Temnothorax* Mayr (Hymenoptera: Formicidae). *BMC Evolutionary Biology* 17: 250.

Prebus M. & Lubertazzi D. 2016. A new species of the ant genus *Bothriomyrmex* Emery 1869 (Hymenoptera: Formicidae) from the Caribbean region. *European Journal of Taxonomy* 211: 1-12. DOI: https://doi.org/10.5852/ejt.2016.211.

Prebus M. 2015. Palearctic elements in the old world tropics: a taxonomic revision of the ant genus *Temnothorax* Mayr (Hymenoptera: Formicidae) for the Afrotropical biogeographical region. *Zookeys* 483: 23–57. https://doi.org/10.3897/zookeys.483.9111.

Snelling R., Borowiec M. & **Prebus M.** 2014. Studies on California ants: a review of the genus *Temnothorax* (Hymenoptera, Formicidae). *Zookeys* 372: 27-89. https://doi.org/10.3897/zookeys.372.6039.

INVITED SEMINARS

Prebus M. 2024. The rediscovery of the putative ant social parasite *Manica parasitica* syn. nov. (Hymenoptera: Formicidae) reveals an unexpected endoparasite syndrome. SIRG seminar series, School of Life Sciences, Arizona State University, Tempe, AZ, February 2024.

Prebus M. 2022. Bad roommates and reticulate evolution. EVO 610, School of Life Sciences, Arizona State University, Tempe, AZ, November 2022.

Prebus M. 2021. Phylogenomic species delimitation in the ants of the *Temnothorax salvini* group (Hymenoptera: Formicidae): an integrative approach. Department of Ecology & Evolution, University of Arizona, virtual workshop, December 2021.

Prebus M. 2021. Careers in entomology and the natural history of *Manica* ants. Boy Scouts of America, Camp Wolfeboro, CA, June 2021.

Prebus M. 2018. The evolution of the acorn ants, genus *Temnothorax*. School of Life Sciences, Arizona State University, Tempe, AZ, February 2018.

Prebus M. 2018. The evolution of the acorn ants, genus *Temnothorax*. University of California, Davis Entomology & Nematology Seminar Series, Davis, California, May 2018.

CONFERENCE PRESENTATIONS

Cortes Hernandez K., **Prebus M.M.**, Van Dam M., Orellana S., Franz N. 2024. Why designing UCEs probes is necessary for weevil museomics. iDigBio 2024. Lawrence, KS, May 2024.

Fenlon A., Cortes-Hernandez K., **Prebus M.**, Upham N., Rivera D. & Rowsey D. 2024. Species boundaries of montane forest *Peromyscus* of the Santa Catalina mountains (Rodentia: Cricetidae). Arizona State University 31st Annual Undergraduate Research Poster Symposium. Tempe, AZ, April 2024

Fenlon A., Cortes-Hernandez K., **Prebus M.**, Upham N., Rivera D. & Rowsey D. 2024. Species boundaries of montane forest *Peromyscus* of the Santa Catalina mountains (Rodentia: Cricetidae). CAP LTER 26th Annual All Scientists' Meeting. CAP LTER 26th Annual All Scientists' Meeting.

Prebus M. & Rabeling C. 2022. The rediscovery and taxonomic demise of *Manica parasitica* (Hymenoptera: Formicidae). International Union for the Study of Social Insects. San Diego, CA, July 2022.

Prebus M. & Rabeling C. 2022. Mito-nuclear discordance in the *Temnothorax longispinosus* species group (Hymenoptera: Formicidae): testing for hybridization between social parasites and their hosts. International Union for the Study of Social Insects. San Diego, CA, July 2022.

Prebus M. 2020. Phylogenomic species delimitation in the ants of the *Temnothorax salvini* group (Hymenoptera: Formicidae): an integrative approach. Entomological Society of America, virtual meeting, November 2020.

Prebus M. 2018. The evolution of the acorn ants, genus *Temnothorax.* Entomological Society of America, Vancouver, Canada, November 2018.

Prebus M. 2018. Opportunistic slavemakers: Emery's Rule in *Temnothorax* ants. International Union for the Study of Social Insects. Guaruja, Brazil, August 2018.

Prebus M. 2016. The phylogeny of the ant genus *Temnothorax* (Hymenoptera: Formicidae). International Congress of Entomology. Orlando, FL, October 2016.

Borowiec M., Boudinot B. & **Prebus M.** 2014. Phylogenetic placement of the ant *Lasius atopus* with implications for the evolution and subgeneric classification of the genus. Entomological Society of America, Portland, OR, November 2014.

TEACHING

2012-2018	Teaching Assistant BIS 2C. University of California, Davis, CA.
2016	Teaching Assistant ENT 109. University of California, Davis, CA.
2013	Teaching Assistant ENT 107. University of California, Davis, CA.

SERVICE

2014-15	Graduate Student Representative and Videographer, Entomology Department Seminar Committee. University of California, Davis, CA

PROFESSIONAL ACTIVITIES

Editorial Boards

2021-present Subject editor. *Biodiversity Data Journal.*
2021-present Subject editor. *ZooKeys.*

Referee

Insectes Sociaux, Journal of Evolutionary Biology, Journal of Visualized Experiments, Revista Brasileira de Entomologia, Systematic Entomology, Zookeys, Zoological Journal of the Linnean Society, Zootaxa

Professional Society Memberships
Entomological Society of America
International Union for the Study of Social Insects
Society of Systematic Biologists

RESEARCH PERSONNEL TRAINING

Professional

2023	Dakota Rowsey, Vertebrate Collections Manager, Arizona State University (ultra-conserved elements (UCEs) bench protocol)
2022	Gerardo Martínez (insect collection techniques)
2022	Daniel Pinto (insect collection techniques)
2022	Maybeth Pinto (insect collection techniques)
2016	Flavia Esteves, Postdoctoral Fellow, California Academy of Sciences (UCEs bench protocol)

Graduate Students

2022-	Kevin Cortés Hernández, Arizona State University (UCEs bench protocol, Illumina WGS, bioinformatics)
2022-	Samanta Orellana Arevalo, Arizona State University (UCEs bench protocol, Illumina WGS)
2021-	Tyler Murdock, Arizona State University (UCEs bench protocol, bioinformatics)
2018-2021	Steven Messer, Arizona State University (UCEs bench protocol, bioinformatics)
2018-2021	Laura Daniela Mera Rodriguez, Arizona State University (UCEs bench protocol, bioinformatics)
2018-2021	Kyle Gray, Arizona State University (UCEs bench protocol, bioinformatics)
2016-2017	Zachary Griebenow, University of California, Davis (UCEs bench protocol, bioinformatics)
2016-2017	Jill Oberski, University of California, Davis (UCEs bench protocol, bioinformatics)
2016	Ziad Khouri, University of California, Davis (UCEs bench protocol, bioinformatics)
2014	Brendon Boudinot, University of California, Davis (Sanger bench protocol)

Undergraduate Students

2023-	Alexander Fenlon, Arizona State University (UCEs bench protocol)
2021	Nhi Nguyen, Arizona State University (UCEs bench protocol, morphometrics, microphotography)
2013	James Whitney, University of California, Davis (Sanger bench protocol)

High School Students

2021	Iyla Baker, currently at Northwestern University (UCEs bench protocol, morphometrics, microphotography)

RESEARCH INTERESTS

- Global phylogeny, taxonomy, biogeography, biodiversity, and natural history of ants.
- Comparative genomic approaches to understand complex life histories.
- Development of phylogenomic analysis tools.
- Development of morphological phylogenetic approaches, focussing on fossil placement.
- Integrative species delimitation and ancient hybridization.
- Biodiversity and biogeography of the southwesstern United States and northwestern Mexico.

RELEVANT SKILLS

- Proficient in identification, curation, databasing, and photography of insect collections.
- Proficient in R, Python, and command line interfaces.
- Proficient in the analysis of micro-CT data.
- Extensive experience with the generation, processing, and analysis of phylogenomic data.
- Working knowledge of phylogenetics tools, genomic analysis, and statistical inference.
- Effective mentoring and training of students and colleagues in insect collection, curation, identification, databasing, photography, and morphometry.
- Successful training of students and colleagues in genomic wet lab procedures, bioinformatics, and remote computing.
- Fluent in English/limited working Spanish.