

Kyle William Gray

Arizona State University | Social Insect Research Group
University of Hohenheim | Center for the Integrative Taxonomy of Insects
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I am an evolutionary biologist interested in the diversity, biogeography, and evolutionary history of ants. My research uses natural history, biogeography, and phylogenomics to address questions about the evolutionary origins of symbioses between ant species and the ants of the South Pacific.

Education

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| 2017–present | Evolutionary Biology PhD— <i>in progress</i> PhD candidate
Arizona State University Tempe, Arizona, U.S.A. PI: Dr. Christian Rabeling
Dissertation: <i>Biogeography and evolution of ant social parasites and the ants of Vanuatu</i> |
| 2016 | Animal Biology BS—emphasis in insect-plant interactions
University of California Davis Davis, California, U.S.A. PIs: Dr. Phil Ward, Dr. Marek Borowiec
Thesis: <i>Novel ant-plant associations in Madagascar</i> |

Research Experience

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| 2022–present | Visiting researcher Center for the Integrative Taxonomy of Insects
University of Hohenheim Stuttgart, Baden-Wurttemberg, Germany |
| 2017–present | Graduate student researcher Rabeling Lab
Arizona State University Tempe, Arizona, U.S.A. Social Insect Research Group |
| 2016 | Research assistant ADMAC: Ant Diversity of the Mesoamerican Corridor
PIs: Dr. John Longino, Dr. Phil Ward, Dr. Michael Branstetter
https://sites.google.com/site/admacsite/reports/2016-mexico

Student researcher California Ecology and Conservation Spring 2016
University of California Natural Reserve System |
| 2014–2016 | Student research assistant Ward Lab University of California Davis |

Research Publications

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| 1) | Gray, K.W. , Cover, S.P., Johnson, R.A. & Rabeling, C. (2018) The dacetine ant <i>Strumigenys arizonica</i> , an apparent obligate commensal of the fungus-growing ant <i>Trachymyrmex arizonensis</i> in southwestern North America. <i>Insectes Sociaux</i> 65: 401–410.
https://link.springer.com/article/10.1007/s00040-018-0625-8 |
| 2) | Gray, K.W. & Rabeling, C. Global biogeography of ant social parasites: exploring patterns and mechanisms of an inverse latitudinal diversity gradient. <i>Journal of Biogeography</i> (in-press). |
| In preparation | Gray, K.W. , Wilson, E.O. & Rabeling, C. The ants of Vanuatu: first insights into the biodiversity of an unexplored ant fauna in the South Pacific.

Gray, K.W. & Rabeling, C. Inferring the biological origins of the Vanuatuan archipelago using a comprehensive ant community phylogeny. |

Research Support

- 2022 ASU Social Insect Research Group Research Fellowship (**\$3690**). Proposal title: *Biodiversity and molecular phylogeny of the Vanuatuan ant community*
- ASU Graduate and Professional Student Association Research Program (**\$1515**). Proposal title: *The ants of Vanuatu: using a comprehensive molecular phylogeny to test hypotheses on species boundaries and the biological origins of an unexplored ant community in the South Pacific.*
- 2021 ASU Social Insect Research Group Research Fellowship (**\$3690**). Proposal title: *Inferring an ant community phylogeny of the Vanuatuan archipelago*
- 2019–2020 ASU Social Insect Research Group Research Grant (**\$2400**). Proposal title: *Applying novel ant biodiversity data to elucidate island-biogeographic processes of Melanesia*

Conferences, Symposiums, and Research Talks

- 2022 Oral presentation: **Gray, K.W.** *Species interactions and co-evolution*
Introduction to Evolutionary Biology Series | University of Hohenheim
18 November 2022
- Oral presentation: **Gray, K.W.** & Rabeling, C. *Global biogeography of ant social parasites*
Biogeography of social insects | IUSSI 2022 Conference | San Diego, California, USA
4 July 2022
- Poster presentation: **Gray, K.W.**, Wilson, E.O. & Rabeling, C. *First insights into the ant biodiversity of Vanuatu*
IUSSI 2022 San Diego, California, USA
3 July 2022
- 2021 Oral presentation: **Gray, K.W.** *The ants of Vanuatu: exploring the diversity and biogeography of an unexplored ant fauna*
Social Insect Research Group Seminar | Arizona State University
19 February 2021
- Oral presentation: **Gray, K.W.** *The ants of Vanuatu: exploring the diversity and biogeography of an unexplored ant fauna*
School of Life Sciences Graduate Student Seminar | Arizona State University
12 February 2021
- 2020 Oral presentation: **Gray, K.W.** *The ants of Vanuatu...so far*
Evolutionary Biology Graduate Student Symposium | Arizona State University
21 August 2020
- 2019 Oral presentation: **Gray, K.W.** *Exploring the ants of Vanuatu*
Social Insect Research Group Seminar Series | Arizona State University
13 September 2019
- Oral presentation: **Gray, K.W.** *Ants of the Vanuatuan Archipelago*
Evolutionary Biology Graduate Student Symposium | Arizona State University
23 August 2019
- Oral presentation: **Gray, K.W.** & Solved, J.P. *Ants and Plants*
Community Nature Series | Highlands Center for Natural History
19 February 2019
- 2018 Oral presentation: **Gray, K.W.** *Strumigenys arizonica and Trachymyrmex arizonensis*
Social Insect Research Group Seminar Series | Arizona State University
12 October 2018
- Oral presentation: **Gray, K.W.** *Biogeography of ant social parasites*
Evolutionary Biology Graduate Student Symposium | Arizona State University
26 September 2018
- Oral presentation: **Gray, K.W.** *Ant Diversity, Ecology, and Evolution*
Insights to the Outdoors | Highlands Center for Natural History

23 May 2018

Poster presentation: **Gray, K.W.**, Cover, S.P., Johnson, R.A. & Rabeling, C. *Characterizing the symbiosis between the dacetine ant *Strumigenys arizonica* and the fungus-growing ant *Trachymyrmex arizonensis**
Madrean Archipelago Conference | Tucson, Arizona, U.S.A.
18 May 2018

2017 Oral Presentation: **Gray, K.W.** *Ants of Blue Oak Ranch Reserve*
UC NRS California Ecology and Conservation | Blue Oak Ranch Reserve
3 April 2017

Additional Publications

2019 **Gray, K.W.** "Still Pinned Up" (2019) *The Daily Ant* | Editor in Chief: Benjamin Blanchard
<https://dailyant.com/2019/11/04/still-pinned-up/>

2017 **Gray, K.W.** "Digging deep into the world of the thatch-mound ant" (2017) *High Trails Outdoor Science School*
<https://dirtyclassroom.com/formica-ravida-thatch-mound-ant-kyle-gray/>

Teaching Experience

Teaching Assistant

2022 Evolution | BIO 345 | Arizona State University

2021 General Genetics | BIO 340 | Arizona State University
Evolution | BIO 345 | Arizona State University

2020 General Genetics | BIO 340 | Arizona State University
Fundamentals of Ecology | BIO 320 | Arizona State University
Evolution | BIO 345 | Arizona State University

2019 Evolution (online) | BIO 345 | Arizona State University
General Biology I | BIO 181 | Arizona State University

2018 Conceptual Approach to Biology I | BIO 281 | Arizona State University

2017 General Biology I | BIO 181 | Arizona State University

Outdoor Education

2016–2017 Outdoor Science Educator | High Trails Outdoor Science School
Angelus Oaks, California, U.S.A.

Mentorship

Undergraduate student mentorship

2022 Emma Rubin | Arizona State University | The ants of Vanuatu: *Emma assisted with curation and imaging of Vanuatuan specimens*

2021 Sofia Reiland | Arizona State University | The ants of Vanuatu: *Sofia assisted with DNA extractions of Vanuatuan ant specimens and specimen curation*

2019–2021 Cameron Ward | Arizona State University | The ants of Vanuatu: *Cameron assisted with the literature reviews and databasing of ant specimens*

Outreach and Service

Outreach

- 2021 *Ant hunting with Kyle: Exploring the ants of Rivendale Park and Open Space* (video presentation: <https://youtu.be/WJfzeD-WKNQ>) | Open Door at Arizona State University
8 March 2021
- 2020 Live Insects Show and Tell | Open Door at Arizona State University
22 February 2020
- 2019 Earth Day—Party for the Planet | Phoenix Zoo
13 April 2019
- Live Insects Show and Tell | Open Door at Arizona State University
23 February 2019
- 2018 Live Insects Show and Tell | Open Door at Arizona State University
24 February 2018

Service

- 2022 Session moderator of *Biogeography of social insects*
IUSSI 2022 Conference | San Diego, California, USA
4 July 2022
- 2021 STEAMup Graduate Student Panel Event | Arizona State University
25 March 2021
- 2019 Teen Career Conference | Phoenix Zoo
9 February 2019
- 2018 Science Fair Judge | Hamilton Invitational Science and Engineering Fair | Hamilton High School | Chandler, Arizona, U.S.A.
23–24 February 2018
- 2017 Scholarship Reader | University of California Education Abroad Program
October 2017

Awards and Honors

- 2017 “Instructor-42” Teaching Excellence Award | High Trails Outdoor Science School
13 March 2017
- 2016 2nd place poster: Jasper, C. & **Gray, K.W.** *Investigating Potential Synergistic Effects of Chronic Exposure to Amitraz and Multiple Pesticides on Honey Bee (*Apis mellifera*) Survivorship*
UC Davis Honey Bee Symposium | Davis, California, U.S.A.
09 May 2016

Professional Affiliations

- 2019–present Society for the Study of Evolution
- 2018–present International Union for the Study of Social Insects, North American Section