

Rebecca Jean (RJ) A. Millena | American Museum of Natural History | Richard Gilder Graduate School | Central Park West @ 79th St | New York, NY 10024 | rmillena@amnh.org | +1 (925) 567-4597

EDUCATION

- PhD Comparative Biology - AMNH Richard Gilder Graduate School** 2021–2025 (expected)
Dissertation: *Genomics and systematics of the twisted-wing insect parasites*
- BS Entomology - University of California, Davis** 2021
Minored in Nematology and Ecology, Evolution, & Biodiversity
Thesis: *A double-edged sword: parental care increases risk of offspring infection by a maternally vectored parasite*

RESEARCH EXPERIENCE

- Graduate Student; Richard Gilder Graduate School at the AMNH, NY** 2021–present
Department of Invertebrate Zoology
Advisor: Jessica Ware
- Sequenced multiple genomes of the twisted-wing parasite order (Strepsiptera) for comparative analysis and ecological inferences
 - Investigated the evolution of the order Strepsiptera by sequencing 1086 loci and generating a phylogeny based on museum specimens using subgenomic targeted enrichment methods
 - Used scanning electron microscopy and CT scanning to study the morphology and evaluate the current classification of Strepsiptera
- This work has resulted in one publication in Environmental Entomology, with two manuscripts currently in review in Molecular Ecology and Insect Systematics and Diversity, and two more in prep. This work was funded primarily through the Richard Gilder Graduate Fellowship.*

- Undergraduate Researcher; University of California, Davis, CA** 2019-2021
Department of Entomology, Bohart Museum of Entomology
Advisor: Jay Rosenheim
- Developed a research project that tested for the effect of *Ammophila* host wasp parental care in facilitating offspring infection by Strepsiptera
 - Individually examined over 900 wasp museum specimens for *Ammophila* wasp parasitism in the Bohart Museum of Entomology
 - Established eight novel host species for the strepsipteran *Eupathocera lugubris* (Strepsiptera: Xenidae) with museum data
- This work resulted in a publication in Biology Letters, and was funded through the University of California Leadership Excellence through Advanced Degrees (UC LEADS) Undergraduate Research Fellowship.*

PUBLICATIONS

Published in peer-reviewed journals

1. **Millena RJA**, Eichert A, Ware JL. (2024). Collection methods and distribution modeling for Strepsiptera in the United States. *Environmental Entomology*, 53(4), pp. 740–750.
2. **Millena RJA**, Rosenheim JA. (2022). A double-edged sword: parental care increases risk of offspring infection by a maternally vectored parasite. *Biology Letters* 18: 20220007.

Submitted manuscripts

Millena RJA, Lähteenaro M, Riegler M, Kathirithamby J. (in review). Strepsiptera systematics: Past, present, and future. Submitted to *Insect Systematics and Diversity* February 2025.

Millena RJA, Tolman ER, Ware JL. (in review). The genome of *Xenos peckii* (Strepsiptera: Xenidae) and implications for tripartite host-Strepsiptera-Wolbachia associations. Submitted to *Molecular Ecology* August 2024.

FELLOWSHIPS

Richard Gilder Graduate School Fellowship	2021–present
UC LEADS Fellowship	2019–2021

GRANTS, HONORS, AND AWARDS

ESA Travel Award	2023
RGGGS Maxwell/Hanrahan Fund	2023
SSB Graduate Student Research Award	2023
Black Rock Forest Redden Conservation Grant	2023
UCA Allies Travel Award	2023
SSB Travel Award, 2023 Meeting	2022
NSF GRFP Honorable Mention	2022
Richard Gilder Graduate School, Research Assistantship	2021–present
Koret UC LEADS Poster Top Honors	2021
Warren R. Salz Memorial Scholarship	2017–2018

PRESENTATIONS

Invited Talks

Millena RJA. 2024. “David Redden Grant Recipient: Ware Lab BRF Insect Surveys.” *Black Rock Forest Benefit Luncheon*, keynote speaker, NY.

Millena RJA. 2024. “Wolbachia and its insect manipulations.” *North American Butterfly Association, New Jersey Chapter*, guest scientist talk, NJ.

Millena RJA, Tolman E, Ware JL. 2023. “Untangling the evolution of the twisted-wing parasites.” *Entomological Society of America Annual Meeting*, Washington D.C.

Millena RJA, Ware J. 2023. “Surveying Strepsiptera: Testing collection methods for the twisted-wing parasites”. *Friends of the Forest* guest scientist, Black Rock Forest, NY.

Millena RJA. 2023. “Sequencing Strepsiptera: Resolving the evolutionary history of the twisted-wing parasites.” *UCA Biology Dept* seminar talk, U of Central Arkansas, AR.

Millena RJA. 2023. “Life and Me: Education, Evolution, and Entomology.” *Skype a Scientist* talk for Connell Co-op College, Manchester, England.

Millena RJA. 2023. “Parasites and Papillons.” *North American Butterfly Association, New Jersey Chapter*, guest scientist talk, NJ.

Millena RJA. 2022. “Searching for Strepsiptera: Museomics in the study of host-parasite relationships.” *Entomological Society of America and Entomological Society of Canada Joint Annual Meeting*, Vancouver, Canada.

Submitted oral presentations

Millena RJA, Ware JL. 2025. “The genome of *Xenos peckii* (Strepsiptera: Xenidae) reveals implications for tripartite host-Strepsiptera-Wolbachia associations.” *Entomological Society of America Eastern Branch Meeting*, Harrisburg, PA.

- Millena RJA**, Ware JL. 2024. “Wolbachia and Strepsiptera: Multitrophic associations in parasitic systems.” *Entomological Society of America Annual Meeting*, Phoenix, AZ.
- Millena RJA**, Rosenheim J. 2022. “A double-edged sword: parental care increases risk of offspring infection by a maternally-vectorized parasite.” *Entomological Society of America Pacific Branch Meeting*, Santa Rosa, CA.
- Millena RJA**, Rosenheim J. 2021. “Parental care augments maternally-vectorized parasites in *Ammophila* wasps.” *Koret UC LEADS Research Symposium*, UC Davis, CA.
- Millena RJA**, Rosenheim J. 2020. “Parental care and the risk of maternally-vectorized pathogens: *Ammophila* transmit strepsipteran parasites to their young.” *Undergraduate Research, Scholarship & Creative Activities Conference*, UC Davis, CA.

Submitted poster presentations

- Millena RJA**, Ware J. 2024. “Systematics of Strepsiptera: The evolution of the twisted-wing parasites.” *International Congress of Entomology XXVII*, Kyoto, Japan.
- Millena RJA**, Tolman E, Ware J. 2023. “Sequencing Strepsiptera: NGS and museomics methods in a systematic study of the twisted-wing parasites.” *Society of Systematic Biologists 2023 Standalone Meeting*, Instituto de Biología UNAM, Mexico.
- Frankel WG, Tobin T, **Millena RJA**, Goodman A, Ware J. 2022. “Climate and Collections: Modeling strepsipteran host-parasite dynamics with museum collections.” *ESA, ESC, and ESBC Joint Annual Meeting*, Vancouver, Canada.
- Millena RJA**, Rosenheim J. 2019. “Parental care and the risk of maternally-vectorized pathogens: *Ammophila* transmit strepsipteran parasites to their young.” *UC LEADS Summer Symposium*, UC Davis, CA.

TEACHING EXPERIENCE

- Adjunct Professor, City University of NY: Baruch College** Fall 2024
Course: “Science Forward”
Responsibilities: Taught one semester of a sophomore-level introductory science course on critical thinking and scientific skills to 20 undergraduates. Developed a curriculum of 75-minute lectures, assignments, and lab activities for class sessions twice a week, covering a broad range of scientific disciplines. Learning goals culminated in students’ final project poster presentations at the Macaulay Honors College STEAM Festival.
- Teaching Assistant, Columbia University** Summer 2022, ‘23
Course: “Conservation Biology and Sustainability: Preserving the Planet”
Responsibilities: Directed lectures, discussions, lab activities, and field trip tours for the 30-student, three-week High School Summer Session course alongside Eric Stiner and Dr. Lauren Esposito. Coordinated and gave a private insect collections tour for the class at the American Museum of Natural History, and headed a field-based entomology workshop during the week-long field component of the course at Black Rock Forest, NY.
- Graduate Student Instructor, Dragonfly Society of America** Summer 2022
Course: Colombia GEODE Workshop
Responsibilities: Assisted in coordination and instruction during a week-long intensive workshop funded by GEODE (Genealogy and Ecology of Odonata) in the Tatama National Park of the Northern Andes. Instructed specifically in collection, curation, and microscopy techniques, while aiding with DNA extractions and Odonate identification.

Workshop participants included 30 professors, postdoctoral students, doctoral and masters students, and undergraduate students from across Central and South America.

MENTORING EXPERIENCE

- Mentor for Ella Froah; WESEF competitor** *Summer 2023–present*
Current senior at Rye High School, applying to Science Talent Search (STS) and undergraduate programs; won the Teatown Young Environmentalist Award at the 2024 Regeneron Westchester Science & Engineering Fair (WESEF).
- Mentor for Wendy Frankel; NSF REU student** *Summer 2022*
Graduate of the University of British Columbia; presented REU project “Climate and collections: Modeling strepsipteran host-parasite dynamics with museum collections” at the 2022 ESA Conference in Vancouver, Canada.
- Mentor for Trinity Tobin; NSF REU student** *Summer 2022*
Cum laude graduate of State University of New York Cortland; presented REU project “Monitoring Odonata distribution in urban environments” at the 2022 ESA Conference in Vancouver, Canada.

SERVICE AND OUTREACH

- Student Representative & Liaison, Association of Women in Sciences** *2022–present*
American Museum of Natural History, Women in Natural Sciences Chapter; NY, USA
Liaison between AWIS/WINS and the graduate student body of the AMNH, participant in steering committee meetings for organizational decisions
- Departmental and Collections Tour Guide** *2021–present*
American Museum of Natural History, Department of Invertebrate Zoology; NY, USA
Provided over 50 educational tours of the live and preserved invertebrate collections in the AMNH for guest and school groups of all ages (largest group ~50 individuals)
- Guest/Visiting Scientist** *2021–present*
American Museum of Natural History, Education Department; NY, USA
Led many nature walks and guest lectures or participated in several panels for numerous educational programs (K-12th grade) in the AMNH: Lang Science Program, Science Alliance Program, Adventures in Science Summer Camps, MEEP, SRMP, GSTEM
- Macaulay Honors Bioblitz Taxon Team Leader** *2022, '24*
Macaulay Honors College, NYC Parks; NY, USA
Headed invertebrate-focused teams of undergraduate students and faculty in a Bioblitz (species survey) of two city parks—Randall’s Island Park in 2022, Van Cortlandt Park in 2024; educated groups on how to participate in citizen science with iNaturalist
- Story Collider Storyteller** *2023*
Story Collider, Caveat; NY, USA
Featured as a scientist storyteller during a live performance at the Caveat, NYC, delivering a talk about my personal relationship with science. Live performance was recorded and later aired as an episode on the award-winning podcast *The Story Collider*
- Renaissance Youth Center Bioblitz Leader** *2022, '23*
Renaissance Youth Center; NY, USA

Alongside curators from the AMNH, educated underserved inner-city youth members of the RYC on natural systems, biology, entomology, and citizen science during a weekend-long Bioblitz in the Catskill Mountains

Symposium Organizer

2022

Entomological Society of America Annual Meeting; Vancouver, Canada

Co-organized symposium “Beyond tritrophic interactions: Diverse approaches to studying hyperparasitoids” with Judith Herreid and Ryan Spahn, bringing together a community of researchers working on parasitic systems

REVIEWED PAPERS

Pan-Pacific Entomologist: Stylops Kirby, 1802 (Strepsiptera: Stylopidae) parasitizing bees in the subgenus *Callandrena* (Hymenoptera: Andrenidae: *Andrena*), with description of a new Species

PROFESSIONAL AFFILIATIONS

Association of Women in Sciences (WINS Chapter); American Association of University Women; Graduate Women in Science; Society of Systematic Biologists; Entomological Society of America (SysEB, Eastern, & Pacific Branches); Society for the Study of Evolution; Association of Filipino Scientists in America; Skype A Scientist; EntoPOC; SACNAS

REFERENCES

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