Eric Gordon

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Professional Experience

Postdoctoral Fellow advised by Christine Simon, Department of Ecology and Evolutionary Biology, University of Connecticut — Jan 2018-Present

Education

Ph. D. **Entomology, University of California, Riverside** — December 2017

Dissertation Topic:
"Natural history, systematics, and taxonomy of the termite assassin bugs (Reduviidae: Salyavatinae), host associations, salivary protein evolution and bacterial symbionts of kissing bugs (Reduviidae: Triatominae) and evolutionary analysis of microbiota of Miroidea and Largidae" advised by Dr. Christiane Weirauch, Department of Entomology, University of California, Riverside

B.S. **Biological Sciences and Entomology, Cornell University** — May 2012

Summa cum laude (Cumulative GPA: 4.045)
Concentration in Microbiology
Distinction in Research: High Honors
Senior Honors Thesis:
"Investigations of the source, distribution, expression and physiological function of thiaminase I" under the supervision of Dr. Esther Angert, Dept. Microbiology, Cornell
<http://ecommons.library.cornell.edu/handle/1813/29097>

Awards and Fellowships

Dissertation Year Program, University of California, Riverside — Fall 2017

Graduate Research Fellow, National Science Foundation — Sep 2014-Aug-2017

Honorable Mention, NSF Graduate Research Fellowship Program — Apr. 2013

Eugene B. Cota-Robles Fellowship — Fall 2012-Dec 2017
University of California, Riverside

Dean's List at Cornell University (8 semesters) — Fall 2008-Spring 2012

Academic Excellence in a Double Major — Spring 2012
Cornell University, College of Agriculture and Life Sciences

Excellence in Undergraduate Research (Microbiology) — Spring 2012
Cornell University, College of Agriculture and Life Sciences

Cornell Hughes Scholar — Summer 2010
Sponsored by the Howard Hughes Medical Institute

Publications

Undergraduates mentored underlined; * indicates equal contribution of authors

1. Georgieva, A.*, **Gordon, E. R. L.*,** Weirauch, C. 2017. Sylvatic host associations of Triatominae and implications for Chagas disease reservoirs: a review and new host records based on archival specimens. *PeerJ.* 5, e3826: 1-24.

2. **Gordon, E. R. L.,** McFrederick, Q. & Weirauch, C. 2016. Phylogenetic Evidence for Ancient and Persistent Environmental Symbiont Reacquisition in Largidae (Hemiptera: Heteroptera). *Applied and Environmental Microbiology*, 82(24): 7123-7133.

3. Zhang, J., **Gordon, E. R. L.**, Forthman, M., Hwang, W. S., Walden, K. K., Swanson, D. R., Johnson, K., Meier, R., Weirauch, C. 2016. Evolution of the assassin's arms: insights from a phylogeny of combined transcriptomic and ribosomal DNA data (Heteroptera: Reduvioidea). *Scientific Reports.* 6: 22177.

4. **Gordon, E. R. L.** & Weirauch, C. 2016. Efficient capture of natural history data reveals prey conservatism of cryptic termite predators. *Molecular Phylogenetics and Evolution*, 94: 65-73.

5. Weirauch, C., Bérenger, J. M., Berniker, L., Forero, D., Forthman, M., Frankenberg, S., Freedman A., **Gordon E. R. L.,** Hoey-Chamberlain R., Hwang, W.S., Marshall, S. M., Michael A., Paiero, S. M., Udah, O., Watson, C., Yeo, M., Zhang, G., Zhang, J. 2014. An Illustrated Identification Key to Assassin Bug Subfamilies and Tribes (Hemiptera: Reduviidae) *Canadian Journal of Arthropod Identification* 26: 1-115

6. Kraft, C. E., **Gordon, E. R. L.,** & Angert, E. R. 2014. A Rapid Method for Assaying Thiaminase I Activity in Diverse Biological Samples. *PloS One*, **9**(3): e92688.

Publications in Preparation:

7. Knyshov, A., **Gordon, E. R. L.** & Weirauch, C. Cost-efficient high throughput capture of museum arthropod specimen DNA using PCR-generated baits. *Molecular Ecology Resources. In Review.*

8. Kieran, T., **Gordon, E. R. L.,** Forthman, M., Hoey-Chamberlain, R., Kimball, R. T., Faircloth, B. C., Weirauch, C., Glenn, T. C. Insight from an Ultraconserved Element Probe Set Designed for Hemipteran Phylogenetics Integrated with Genomic Resources. *Methods in Ecology and Evolution. Submitted.*

9. Gordon, E. R. L. & Weirauch, C. Integrative phylogenetics and taxonomic revision and reclassification of the termite assassin bugs (Reduviidae: Salyavatinae & Sphaeridopinae). *In preparation.*

10. Gordon, E. R. L., McFrederick, Q. & Weirauch, C. Widespread polymorphism in identity of bacterial symbionts of blood-feeding Triatominae. *In preparation.*

11. Gordon, E. R. L., Walker A. & Weirauch, C. Turning a good bug bad: The evolution of hematophagy-associated proteins in kissing bugs (Reduviidae: Triatominae) and relatives. *In preparation.*

12. Gordon, E. R. L., McFrederick, Q. & Weirauch, C. Evolution and comparative analysis of bacterial associates of the dietetically plastic Miroidea (Heteroptera). *In preparation.*

Symposia Organized

Breaking into the biobank: Promising methods for sequencing DNA from museum arthropod specimens. Entomological Society of America, Denver, Colorado. Symposium. Co-organized with Michael Forthman.

Objectives:

1) Review and synthesize current techniques useful for gathering genetic data from museum arthropod specimens emphasizing the difference in cost, quantity of data gathered, and applicability of different techniques.
2) Highlight the potential of these techniques for new advances in the study of ecology and evolution.
3) Promote studies using these techniques that will contribute to the growing use of museum specimens for studying evolutionary processes.
4) Promote dialogue and collaborations with experts that have developed or used these techniques, including those that work on non-arthropod taxa.

Bringing natural history back in to focus: Utilizing modern resources for high throughput observational data. 100th Annual Pacific Branch Meeting of the Entomological Society of America, Honolulu, Hawaii. Symposium. Co-organized with Kaleigh Russell.

Objectives:

1) Convey methodology for interrelated but separate modern techniques for understanding natural history of non-model arthropod species.
2) Demonstrate the utility of such techniques by highlighting novel findings that might have been impossible or prohibitively costly to research otherwise.
3) Review and synthesize potential of modern methods including groups in which they have not yet been utilized.
4) Promote collaboration between entomologists from different fields that will contribute to the growing use of modern methodology for discovery of natural history.

Presentations:

Undergraduates mentored underlined

Natural history, systematics, and taxonomy of the termite assassin bugs (Reduviidae: Salyavatinae), host associations, salivary protein evolution and bacterial symbionts of kissing bugs (Reduviidae: Triatominae) and evolutionary analysis of microbiota of Miroidea and Largidae. Dec. 2017
Defense Presentation, Department of Entomology
Eric Gordon and Christiane Weirauch.

Escape from the rabbit hole: Exploring the spectrum of symbiont independence in Heteroptera (Miroidea, Triatominae, Largidae). Nov. 2017
Invited talk at Department of Entomology, University of California, Riverside, weekly seminar series
Eric Gordon, Quinn McFrederick and Christiane Weirauch

Comparative microbiome analysis and evolution of the primarily herbivorous true bugs, Miroidea (Hemiptera: Miridae: Tingidae: Thaumastocoridae) utilizing multiplex PCR and Illumina sequencing. Nov. 2017
Graduate Student Ten-Minute Paper Competition at Entomology 2017. Talk.
Eric Gordon and Christiane Weirauch.

Turning a good bug bad: Comparative analysis of salivary proteins and symbioses in blood-feeding kissing bugs (Reduviidae: Triatominae) and their predatory relatives. Sep. 2016
XXV International Congress of Entomology. Orlando, Florida.
Eric Gordon and Christiane Weirauch.

Comparative analysis of bacterial associates and newly annotated transcriptomes of kissing bugs (Reduviidae: Triatominae) and their predatory relatives. Sep. 2016
23rd Annual Student Seminar Day. Department of Entomology, University of California Riverside. Poster.
Eric Gordon and Christiane Weirauch.

Sylvatic host associations of Triatominae and implications for reservoir hosts of Chagas disease: a comprehensive review and new host records based on archived specimens. Sep. 2016
23rd Annual Student Seminar Day. Department of Entomology, University of California Riverside. Poster.
Anna Georgieva, **Eric Gordon** and Christiane Weirauch.

***Largus* than life: Ancient and persistent environmental symbiont reacquisition in bordered plant bugs (Pyrrhocoroidea: Largidae).** May 2016
6th Annual Yosemite Symbiosis Workshop. Yosemite, California. Talk.
Eric Gordon, Quinn McFrederick and Christiane Weirauch.

Gut content screening of Chagas disease vectors reveals new vertebrate host associations. Apr. 2016
Undergraduate Ten-Minute Paper Competition at 100th Annual Pacific Branch Meeting of the Entomological Society of America, Honolulu, Hawaii. Talk.
Anna Georgieva, **Eric Gordon** and Christiane Weirauch.

Overcoming Darwinian and Eltonian shortfalls of biodiversity knowledge in the tropical termite assassins Apr. 2016
100th Annual Pacific Branch Meeting of the Entomological Society of America, Honolulu, Hawaii. Symposium Talk.
Eric Gordon and Christiane Weirauch.

***Largus* than life: Ancient and persistent environmental symbiont reacquisition in bordered plant bugs (Pyrrhocoroidea: Largidae)** Apr. 2016
Graduate Student Ten-Minute Paper Competition at 100th Annual Pacific Branch Meeting of the Entomological Society of America, Honolulu, Hawaii. Talk.
Eric Gordon, Quinn McFrederick and Christiane Weirauch.

***Largus* than life: Ancient generational reacquisition of symbioses and evolutionary shifts of bacterial symbiont complexes in Heteroptera** Sep. 2015
22nd Annual Student Seminar Day. Department of Entomology, University of California Riverside. Talk.
Eric Gordon, Quinn McFrederick and Christiane Weirauch.

Stalking an insect metropolis: Natural history and evolution of the termite assassin bugs (Reduviidae: Salyavatinae) Nov. 2014
Graduate Student Poster Competition at the 62nd annual meeting of the Entomological Society of America. Poster.
Eric Gordon and Christiane Weirauch

Stalking an insect metropolis: Natural history and evolution of the termite assassin bugs (Reduviidae: Salyavatinae and Sphaeridopinae) Sep. 2014
21st Annual Student Seminar Day. Department of Entomology, University of California Riverside. Poster.
Eric Gordon and Christiane Weirauch

Evolution of the termite assassin bugs: Salyavatinae and Sphaeridopinae (Hemiptera: Reduviidae) Jul. 2014
Fifth Quadrennial meeting of the International Heteropterists' Society. Talk.
Eric Gordon and Christiane Weirauch

The trials and tribulations of research in Central Africa: Collecting true bugs in Cameroon Nov. 2013
Invited talk at the Annual Heteropterist's Symposium during 61th annual meeting of the Entomological Society of America. Talk.
Eric Gordon and Christiane Weirauch.

Reconstructing the history of the termite assassin bugs: Salyavatinae and Sphaeridopinae (Hemiptera: Reduviidae). Sep. 2013
20th Annual Student Seminar Day. Department of Entomology, University of California Riverside. Talk.
Eric Gordon and Christiane Weirauch.
Awarded 1st prize in Graduate Student Talk Competition.

Testing relationships of the termite-assassins: A molecular phylogeny of Salyavatinae and Sphaeridopinae (Hemiptera: Reduviidae). Nov. 2012
Graduate Student Ten-Minute Paper Competition at the 60th annual meeting of the Entomological Society of America. Talk.
Eric Gordon and Christiane Weirauch.

Reduviidae of California: REU Summer PEET Project. Aug. 2012
19th Annual Student Seminar Day. Department of Entomology, University of California Riverside. Poster.
Kaleigh Russell, Sarah Frankenberg, Tina Kim, **Eric Gordon**, Christiane Weirauch.
Awarded 1st prize in Undergraduate Poster Competition

Characterizing the environmental factors that stimulate growth and thiaminase I production in two thiaminase I producing bacteria. Aug. 2010
3rd Annual Cornell Hughes Scholars Summer Research Symposium. Poster.
Eric Gordon

Grants Awarded

Graduate Dean's Dissertation Research Grant ($700)	Spring 2016
Pacific Branch-Entomological Society of America Travel Grant ($300)	Spring 2016
Dr. Mir S. Mulla and Lelia Mulla Endowed Scholarship Fund ($6,000)	Summer 2015
Annemarie & Nils Moller-Andersen travel grant ($650)	Summer 2014
CALS Hatch Undergraduate Research Supplement ($2,000)	Fall 2010, 2011
Dextra Undergraduate Research Endowment Fund ($1,300)	Spring 2011

Affiliations

American Society of Tropical Medicine and Hygiene	Spring 2017-Present
American Society for Microbiology	Spring 2016 - Present
International Heteropterists' Society	Summer 2014 - Present
Entomological Society of America	Summer 2012 - Present

Teaching Experience and Outreach

- Volunteer and content creator for 1st and 2nd annual Riverside Insect Fair — Apr. 2015, Apr. 2016
  Created educational material on biodiversity of assassin bugs as well as the blood-feeding kissing bugs (Triatominae) in Southern California.
- Teaching Assistant for Insect Biodiversity — Winter 2014
  Organized material for lab sections, created quizzes and taught students identification and natural history of over ~150 families of insects
- Naturalist Outreach Practicum — Fall 2010
  Presented educational programs on myriapod biology at local elementary schools
- Insectapalooza Volunteer — Oct. 23, 2010
  Engaged visitors in the natural history of arthropods in the arthropod zoo in a massive day-long outreach event, Insectapalooza.

Reviewer

Journal of Medical Entomology; PLoS One; PeerJ; Scientific Reports; Systematic Entomology; Zootaxa

Other Service

Chair of Technology Committee, UCR Entomology Grad. Student Association. Fall 2014 –Fall 2017

- Maintain shared computers, and website. Created blog for promoting graduate student research

Student representative, UCR Entomology Department Website Committee. Fall 2014 –Fall 2017

- Planned and organized changes to departmental website.

Collection Experience

University of California, Riverside (3 months at 10 hours/week)

- Sorted, identified and curated unidentified Heteroptera
- Reorganized Miridae according to current subfamily and tribal level classification

Muséum national d'Histoire naturelle, Paris (1 week at 12 hours per day)

- Imaged type specimens of Reduviidae, and databased and identified members of Salyavatinae

San Diego Natural History Museum (1 day)

- Sorted, identified and curated unidentified Heteroptera

Work Experience

Research Assistant, Cornell University Jan. 2010-May 2012

(ten hours per week during school year; full-time during summer)

Esther Angert, Microbiology

Adapted an assay for the thiaminase I enzyme to a microplate format and used this assay to characterize thiaminase production among various groups of thiaminase I producing bacteria as well as conduct surveys of thiaminase activity in various eukaryotic organisms and bacteria isolated from fish.

Student Worker Aug. 2008-May 2010

Cornell University Dining

References

Dr. Christiane Weirauch, Dept. Entomology, University of California, Riverside. christiane.weirauch@ucr.edu

Dr. Quinn McFrederick, Dept. Entomology, University of California, Riverside. quinn.mcfrederick@ucr.edu

Dr. John Heraty, Dept. Entomology, University of California, Riverside. john.heraty@ucr.edu

Dr. Esther Angert, Dept. Microbiology, Cornell University. era23@cornell.edu

Dr. Clifford Kraft, Dept. Natural Resources, Cornell University. cek7@cornell.edu