

Professional Appointments

- 2019-present **Assistant Professor**, University of Texas at Arlington
Biology Department
- 2016-2019 **NIH Postdoctoral Excellence in Research and Teaching Fellow**,
University of Arizona
Supervisor: Dr. Martha Hunter

Education

- 2010-2016 **Ph.D. in Ecology and Evolution**, Stanford University
Advisors: Dr. Carol Boggs and Dr. Kabir Peay
Dissertation: "A nutritional perspective on the lepidopteran gut microbial community"
- 2005-2009 **A.B in Organismic and Evolutionary Biology**, Harvard University
magna cum laude with highest honors in field

Fellowships, Awards and Grants

* *Funding received at or brought to UTA. (trainee) = mentored fellowship application.*

- 2023-2026* USDA NIFA: "Symbiont transmission constraints and consequences in the orchard bug pest *Leptoglossus zonatus*." PI Martha Hunter, Co-PI **Alison Ravenscraft**. Overall budget **\$646,180**; subaward of **\$95,820** to UTA.
- 2022-2027* NSF CAREER. "Prevalence, magnitude, and importance of gut microbial detoxification services in insect herbivory." PI **Alison Ravenscraft**. Budget: **\$894,597**.
- 2021-2023* (*trainee*) UTA Maverick Bridge Fellowship awarded to mentored PhD candidate Rachel Vargas. (Approx **\$62,418** for stipend and tuition)
- 2021-2023* (*trainee*) UTA Maverick Bridge Fellowship awarded to mentored PhD candidate Alison Blanton. (Approx **\$62,418** for stipend and tuition)
- 2019-2023* USDA NIFA: "Does an environmentally-acquired beneficial symbiont shape the biology of a leaf-footed bug pest?" Co-PIs Martha Hunter, **Alison Ravenscraft**, David Baltrus. Overall budget **\$455,000**; subaward of **\$87,785** to UTA.
- 2016-2019 NIH Postdoctoral Excellence in Research and Teaching Fellowship: "Do environmentally-acquired bacterial symbionts serve as a reservoir of local adaptations for their insect hosts?" University of Arizona (**\$140,000**)

2015-2016	Graduate Fellowship, Stanford Center for Computational, Evolutionary and Human Genomics (\$29,500)
2014	American Society of Naturalists Student Research Award (\$2,000)
2014	Rocky Mountain Biological Station Graduate Fellowship (\$550)
2012-2015	NSF Graduate Research Fellowship (\$126,000)
2009-2010	Benjamin A. Trustman Traveling Fellowship, Harvard University (\$18,000)

Publications

mentored students and lab members are underlined

* *Papers completed during my time at UTA*

In preparation

- *Stillson P, Martinez K, Adamson J, Tehrani A, **Ravenscraft A**. Symbiont identity impacts host fitness under thermal stress. In preparation for submission to *Nature Ecology & Evolution*.
- ***Ravenscraft A**, Kelly SE, Adamson J, Hunter MS. Geography and seasonality of an environmentally-acquired symbiosis: is the bug-*Burkholderia* relationship spatially or temporally structured? In preparation for submission to *Microbial Ecology*.
- *Stormhawk L, Blanton A, **Ravenscraft A**. Efficacy of different laboratory methods to infect *Leptoglossus phyllopus* with symbiotic *Caballeronia* bacteria. In preparation for submission to *BIOS*.

Submitted

- *Brophy M, Walker KR, Adamson J, **Ravenscraft A**. *R. sanguineus s.l.* ticks harbor non-divergent bacterial microbiomes in Arizona. *Submitted to the Journal of Medical Entomology*.

Published

1. *Brophy M, Walker KR, Adamson J, **Ravenscraft A**. 2022. Tropical and temperate lineages of *Rhipicephalus sanguineus s.l.* ticks host different strains of *Coxiella*-like endosymbionts. Accepted at the ***Journal of Medical Entomology***. DOI: 10.1093/jme/tjac132.
2. *Stillson P, Baltrus D, **Ravenscraft A**. 2022. Prevalence of an Insect-Associated Genomic Region in Environmentally Acquired Burkholderiaceae Symbionts. ***Applied and Environmental Microbiology*** 88(9): e02502-21. DOI: 10.1128/aem.02502-21
3. *Brophy M, Riehle MA, Mastrud N, **Ravenscraft A**, Adamson JE, Walker KR. 2022. Genetic variation in *Rhipicephalus sanguineus s.l.* ticks across Arizona. ***International Journal of Environmental Research and Public Health*** 19: 4223. DOI: 10.3390/ijerph19074223
4. *Hunter MS, Umanzor E, Kelly S, Whitaker S, **Ravenscraft A**. 2022. Development of common leaf-footed bug pests depends on the presence and identity of their

- environmentally-acquired symbionts. *Applied and Environmental Microbiology* 88(5): e0177821. DOI: 10.1128/AEM.01778-21.
5. *De Martini F, Coots NL, Jasso-Selles DE, Shevat J, **Ravenscraft A**, Stiblík P, Šobotník J, Sillam-Dussès D, Scheffrahn RH, Carrijo T, Gile GH. 2021. Biogeography and independent diversification in the protist symbiont community of *Heterotermes tenuis*. *Frontiers in Ecology and Evolution* 9: 164. DOI: 10.3389/fevo.2021.640625
 6. ***Ravenscraft A**, Thairu MW, Hansen AK, Hunter MS. 2020. Continent-scale sampling reveals fine-scale turnover in a beneficial bug symbiont. *Frontiers in Microbiology* 11: 1276. DOI: 10.3389/fmicb.2020.01276
 7. *Bockoven AA, Bondy EC, Flores MJ, Kelly SE, **Ravenscraft AM**, Hunter MS. 2020. What goes up might come down: the spectacular spread of an endosymbiont is followed by its decline a decade later. *Microbial Ecology* 79(2): 482-494. DOI: 10.1007/s00248-019-01417-4
 8. **Ravenscraft A**, Kish N, Peay K, Boggs C. 2019. No evidence that gut microbiota are costly to a butterfly host. *Molecular Ecology* 28: 2100–2117. DOI: 10.1111/mec.15057
 9. **Ravenscraft A**, Berry M, Hammer T, Peay K, Boggs C. 2019. Structure and function of the bacterial and fungal gut flora of Neotropical butterflies. *Ecological Monographs* 89(2): e01346. DOI: 10.1002/ecm.1346
 10. McManus R, **Ravenscraft A**, Moore W. 2018. Bacterial associates of a gregarious riparian beetle with explosive defensive chemistry. *Frontiers in Microbiology* 9: 2361. DOI: 10.3389/fmicb.2018.02361
 11. Arcila Hernández L, Sanders J, Miller G, **Ravenscraft A**, Frederickson, M. 2017. Ant-plant mutualism: a dietary by-product of a tropical ant's macronutrient requirements. *Ecology* 98(12): 3141-3151. DOI: 10.1002/ecy.2036
 12. **Ravenscraft A**, Boggs C. 2015. Nutrient acquisition across a dietary shift: Fruit feeding butterflies crave amino acids, nectivores seek salt. *Oecologia* 181(1): 1-12. DOI: 10.1007/s00442-015-3403-6
 13. Hoopes MF, Marsh DM, Beard KH, Goldberg N, Aparicio A, Arbuthnot A, Hixon B, Laflower D, Lee L, Little A, Mooney E, Palette A, **Ravenscraft A**, Scheele S, Stowe K, Sykes C, Watson R, Yang B. 2013. Invasive plants in wildlife refuges: coordinated research with undergraduate ecology courses. *BioScience* 63: 644-656. DOI: 10.1525/bio.2013.63.8.7
 14. Frederickson ME, **Ravenscraft A**, Hernández LMA, Booth G, Astudillo V, Miller GA. 2013. What happens when ants fail at plant defense? *Cordia nodosa* dynamically adjusts its investment in both direct and indirect resistance in response to herbivore damage. *Journal of Ecology* 101: 400-409. DOI: 10.1111/1365-2745.12034
 15. Frederickson ME, **Ravenscraft A**, Miller GA, Hernández LMA, Booth G, Pierce NE. 2012. The direct and ecological costs of an ant-plant symbiosis. *American Naturalist* 179(6): 768-778. DOI: 10.1086/665654

Non-peer reviewed publications

- **Ravenscraft A.** 2023. Book review of *Insects and their Beneficial Microbes* by Angela Douglas. **Quarterly Review of Biology** 98(1): 34-35.

Selected presentations

mentored students and lab members are underlined

* *Presentations delivered during my time at UTA*

- ***Ravenscraft A.** *Upcoming Oct 2023.* Where do the insect gut microbiota come from? Patterns and implications of environmental symbiont acquisition in stinkbugs and butterflies. **Invited talk:** Texas A&M University, College Station TX.
- *Bailey JA, Blanton A, Putman J, **Ravenscraft A.** April 2023. Pesticide degradation through free-living bacteria *Burkholderia*. Poster presentation: UTA DISCOVER Research Symposium, Arlington TX. **First Place Award**, Undergraduate research division.
- *Stormhawk L, Blanton A, **Ravenscraft A.** April 2023. A comparison of laboratory methods to infect *Leptoglossus* bugs with *Caballeronia* bacteria. Poster presentation: UTA Senior Capstone Project Symposium, Arlington TX.
- *Martinez S, Parajuli BS, **Ravenscraft A.** Apr 2023. Symbiosis - it takes guts. Poster presentation: UROP Research Symposium, Arlington TX.
- ***Ravenscraft A.** April 2023. Where do the insect gut microbiota come from? Patterns and implications of environmental symbiont acquisition in stinkbugs and butterflies. **Invited talk:** Texas Tech University, Lubbock TX.
- *Martinez S, Parajuli BS, **Ravenscraft A.** Dec 2022. Evaluating if symbiotic *Burkholderia* are harmful to the nymphs of the host insect. Virtual poster presentation: UROP Research Symposium.
- ***Ravenscraft A**, Kelly SE, Adamson J, Hunter MS. Nov 2022. Geography and seasonality of an environmentally-acquired symbiosis: is the bug-*Burkholderia* relationship spatially or temporally structured? Oral presentation: Entomological Society of America Conference, Vancouver BC, Canada.
- *Parajuli BS, **Ravenscraft A.** Nov 2022. Give and take: Do *Burkholderia* bacteria benefit from the bug-*Burkholderia* symbiosis? Virtual poster presentation: Entomological Society of America Conference, Vancouver BC, Canada. **First Place Award**, Student Competition for the Presidents Prize, Grad PBT & SysEB Sections.
- *Stillson PT, Baltrus D, **Ravenscraft A.** Nov 2022. Prevalence of an insect-associated genomic region in environmentally acquired bacterial symbionts. Oral presentation: Entomological Society of America Conference, Vancouver BC, Canada.
- *Blanton AG, **Ravenscraft A.** Nov 2022. Pesticide degradation capacity of the bug-*Burkholderia* symbiosis. Oral presentation: Entomological Society of America Conference, Vancouver BC, Canada.
- *Hunter MS, Umanson E, Sullivan L, Kelly SE, **Ravenscraft A.** Nov 2022. Variable symbiont transmission and benefits in a leaf-footed bug – *Burkholderia* symbiosis.

Oral presentation: Entomological Society of America Conference, Vancouver BC, Canada.

***Ravenscraft A**, Hunter MS. Nov 2021. Symbiotic partners vary in quality and availability in the environmentally acquired bug-*Burkholderia* symbiosis. Oral presentation: Entomological Society of America Conference, Denver CO.

*Stillson PT, **Ravenscraft A**. Nov 2021. Insect beneficial symbiotic island within Burkholderiaceae localized within *Burkholderia* genus. Oral presentation: Entomological Society of America Conference, Denver CO.

*Brophy M, Walker KR, **Ravenscraft A**. Nov 2021. Tropical and temperate lineages of *Rhipicephalus sanguineus s.l.* ticks host different strains of *Coxiella*-like endosymbionts. Oral presentation: Entomological Society of America Conference, Denver CO.

*Lilly L, Harrison T, Stillson PT, **Ravenscraft A**. Aug 2021. Legume-rhizobia vs. bug-*Burkholderia*: comparison of pairwise mutualisms. Oral presentation & poster: UT System LSAMP Conference, Online Meeting.

*Martinez K, Stillson PT, **Ravenscraft A**. Aug 2021. Potential consequences of early symbiont acquisition. Poster: UT System LSAMP Conference, Online Meeting.

***Ravenscraft A**. Mar 2021. Where do the insect gut microbiota come from? Patterns and implications of environmental symbiont acquisition in stinkbugs and butterflies. **Opening keynote:** Texas Branch of the American Society for Microbiology, Spring Online Meeting (COVID 19).

***Ravenscraft A**. Mar 2021. Patterns and implications of environmental symbiont acquisition in insect hosts. **Invited talk:** University of Mainz & Max Planck Institute for Chemical Ecology, Germany.

***Ravenscraft A**. Feb 2021. Patterns and implications of environmental symbiont acquisition in insect hosts. **Invited talk:** Arizona State University, Phoenix AZ.

***Ravenscraft A**. Feb 2021. Patterns and implications of environmental symbiont acquisition in insect hosts. **Invited talk:** University of North Texas, Denton TX.

*Stillson PT, **Ravenscraft A**. Nov 2020. Spatial differences in *Jalysus*-infecting *Wolbachia* strains. Oral presentation: Entomological Society of America Conference, Online Meeting (COVID 19). **First Place Award**, Student Competition for the Presidents Prize, Grad 10-min SysEB Symbionts Section.

***Ravenscraft A**, Kish N, Peay K, Boggs C. Nov 2020. No evidence gut bacteria impose fitness costs on butterflies, even under starvation conditions. Oral presentation: Entomological Society of America Conference, Online Meeting (COVID 19).

***Ravenscraft A**. Aug 2020. Host diet filters the gut microbiota's composition and metabolic potential in butterflies. Oral presentation: Ecological Society of America Conference, Online Meeting (COVID 19).

***Ravenscraft A**. Apr 2020. Patterns and implications of environmental symbiont acquisition in insect hosts. **Invited talk:** Palmer Lab, University of Texas at Dallas, Dallas TX.

***Ravenscraft A**, Hunter MS. Nov 2019. Geography of an environmentally-acquired symbiosis: Is the bug-*Burkholderia* mutualism spatially structured? Oral presentation: Entomological Society of America Conference, St. Louis MO, USA.

Ravenscraft A. Jun 2019. Patterns and implications of environmental symbiont acquisition in insect hosts. **Invited talk**, Meet the Experts Session: American Society for Microbiology Conference, San Francisco CA.

Teaching

Spring 2023 **Instructor:** *Research and directed study* (BIOL 4379). UTA. 3 students.

Fall 2022 **Instructor:** *Microbial Ecology and Evolution* (BIOL 3308). UTA. 26 students.

Instructor: *Research and directed study* (BIOL 4379). UTA. 1 student.

Sum 2022 **Instructor:** *Research and directed study* (BIOL 4379). UTA. 1 student.

Fall 2021 **Instructor:** *Microbial Ecology and Evolution* (BIOL 3308). UTA. 26 students. **Honors college mentor** for Angela Ngyuen and Lillian Storm.

Fall 2020 **Instructor:** *Microbial Ecology and Evolution* (BIOL 3308). UTA. 22 students. New course developed for UTA.

Instructor: *Student Success* (UNIV-SC 1131-014). UTA. 28 students.

Spring 2018 **Instructor:** *Microbiology*. Pima Community College, Tucson AZ. 21 students.

Fall 2016 Certificate of Leadership in Classroom Diversity & Inclusion, U of Arizona.

2016-2019 **Formal pedagogical training** through the PERT program, U of Arizona.

Sum 2014 Teaching Assistant: *Evolution of Life in Neotropical Forests of Ecuador*, Stanford University.

Spring 2012 **BioCore TA Mentor**. Selected to mentor new teaching assistants based on outstanding teaching evaluations. Stanford University.

Spring 2011 **Excellence in Teaching Award**, Biology Dept., Stanford University.

Fall 2011 Teaching Assistant: *Ecology*. Stanford University.

Spring 2011 Teaching Assistant: *Evolution, Ecology & Plant Biology*. Stanford University.

Winter 2011 Teaching Assistant: *Conservation Biology*. Stanford University.
NCEAS Collaboration: Directed Stanford's portion of an NCEAS project assimilating data and analyzing factors affecting invasive species in National Wildlife Refuges. Led to a publication that included undergraduates as coauthors.

Mentorship

DOCTORAL ADVISEES

Patrick Stillson (Sep 2020-present)
Alison Blanton (Sep 2021-present)
Rachel Vargas (Sep 2021-present)
Bibek Singh Parajuli (Nov 2021-present)

UNDERGRADUATE & MASTERS STUDENT MENTORING (*Bolded names are coauthors*)

John Teodosio, UTA, Lab assistant (Apr 2023-present)
Rachel Grummet, UTA, Lab assistant (Jan 2023-present)
Rebekah Lanning, UTA, Lab assistant (Jan 2023-present)
Irene Pham, UTA, Lab assistant (Jan 2023-present; UROP Spring 2023)
Jaden Rankin, UTA, Lab assistant (Jan 2023-present)
Amelia Manns, UTA, Lab assistant (Sep 2022-present)
Jeremy Wilson, UTA, Lab assistant (Jun 2022-Dec 2022)
Samantha Martinez, UTA, Lab assistant (May 2022-present; UROP Fall 2022 & Spring 2023)
Juanita Adriana Bailey, UTA, Lab assistant (Dec 2021-present)
Lillian Stormhawk, UTA, Undergraduate honors thesis & Lab assistant (Sep 2021-present)
Angela Nguyen, UTA, Undergraduate honors credit (Fall 2021)
Kaisy Martinez, TCC, Lab assistant (May 2021-present; LSAMP summer 2021)
Leilani Lilly, UTA, Lab assistant (Jan 2020-Dec 2021; LSAMP summer 2021)
Arshya Tehrani, UTA, Lab assistant (Jan 2020-May 2021)
Shaikh Ullahansari, UTA, Lab assistant (Jan-Dec 2020)
Diya Ramchandani, UTA, Lab assistant (Jan-May 2020)
Arisa Towns, UTA, Lab assistant (Sep-Dec 2019)
Matt Flores, U Arizona, Lab assistant (Sep-Dec 2017)
Shaira Whitaker, U Arizona, Lab assistant (Mar 2017-Dec 2018)
Catherine Gavin, U Arizona, Lab assistant (Mar 2017-Dec 2018)
Dana Johnson, U Arizona, Lab assistant (Mar 2017-Mar 2018)
Ryan Comella, U Arizona, Lab assistant (Mar 2017-Mar 2018)
Ashley Little, U Arizona, Lab assistant (Jan 2017-Dec 2017)
Reilly McManus, U Arizona, Masters student mentee (Oct 2016-May 2019)
Catherine Vasquez, U Arizona, Lab assistant (Jul 2016-May 2017)
Connor Ranger-Moore, Pima Community College, Lab assistant (Jun 2018-Apr 2019)
Helen Gregory, Pima Community College, Lab assistant (May 2018-Aug 2018)
Joe Hack, Stanford, Field assistant (May-Aug 2014)
Michelle Berry, Stanford, Masters student mentee (Jun 2012-Aug 2014)

Service and Outreach

COMMITTEES **Biology Recruiting and Admissions committee**, 2019-present.
Microbiology faculty search committee, 2022.
DEI faculty search committee, 2020.

Microbiology curriculum committee, 2019.

Dissertation committees: Neda Habibi Arejan (2019-), Maureen Brophy (*U Arizona; external committee member* 2019-2022), Emily Van Buren (2020-), Alicia Byers (*masters; 2019-2021*), Anne Christian (2022-), Sarobi Das (2020-), Daniel Dudek (2020-), Madison Emery (2020-), Edita Folfas (2021-), Mikaela Hanson (2022-), Nowrosh Islam (2020-), Mohammad Kamruzzaman (2020-), Meghan Koenig (2020-), Zachary Lange (2021-), Kristopher Row (2019-), Liam Sullivan (*U Arizona; external committee member* 2022-), Arshya Tehrani (2021-).

OTHER
SERVICE

Grant reviewer, ad hoc, Dutch Research Council, Spring 2023.

Poster judge for the Texas Branch of the American Society for Microbiology Spring Meeting, Online, Mar 2021.

Grant reviewer, ad hoc, NSF IOS program, Summer 2021.

Grant reviewer, ad hoc, NSF CAREER grant program, Spring 2021.

Grant reviewer for the ConTex Collaborative Research Grants Program, Spring 2020.

Grant reviewer for UTA Phi Sigma PhD research grant, Spring 2020.

Poster judge for the Entomological Society of America Conference, St. Louis MO, Nov 2019.

Peer reviewer for *The American Naturalist*, *Frontiers in Cellular and Infection Microbiology*, *Frontiers in Microbiology* (*Review Editor*), *Ecological Entomology*, *Ecology and Evolution*, *Environmental Microbiology*, *Environmental Entomology*, *European Journal of Entomology*, *Insects*, *Insect Science*, *Journal of Experimental Biology*, *Microbial Ecology*, *Microbiology Spectrum*, *Molecular Ecology*, *Molecular Ecology Resources*, *mSystems*, *Natural Product Reports*, *Oikos*, *PLoS ONE*, *Scientific Reports*, and *Trends in Microbiology*.

Head PERT. Served as the liaison between PERT postdoctoral fellows and program administrators at the University of Arizona, 2018-2019.

OUTREACH

Interviewed expert for news story. March 24, 2023. "Skeeter eaters' don't really eat mosquitoes, but they do serve an important purpose," *WFAA Local News*. Interview by Sean Giggy.

Invited talk, Arlington Conservation Council. Feb 2023. Title: Feeding your friendly backyard herbivore: coevolution of native plants and native insects.

Invited talk, Sheri Capeheart Nature Preserve. Jan 2023. Title: Feeding your friendly backyard herbivore: coevolution of native plants and native insects.

Invited talk, Texas Native Plant Society state-wide annual meeting. October 2021. Title: Feeding your friendly backyard herbivore: coevolution of native plants and native insects.

Invited talk, Texas Master Naturalist program. July 2021. Title: Feeding your friendly backyard herbivore: coevolution of native plants and native insects.

Invited talk, Cross Timbers Texas Native Plant Society. April 2021. Title: Feeding your friendly backyard herbivore: coevolution of native plants and native insects.

Invited talk, DFW Texas Native Plant Society. Feb 2021. Title: Feeding your friendly backyard herbivore: coevolution of native plants and native insects.

Ran an interactive public science exhibit at the Arizona Insect Festival, Fall 2017 & Fall 2018.

Co-instructed “Microbes and Mud,” a biannual workshop for Stanford Splash, an enrichment program for students in grades 7-12. 2013-2015.

Co-instructor for BioCore Explorations. Designed and led an annual weekend workshop on lepidopteran ecology and evolution, including a field trip to observe the fall monarch migration. Stanford University, 2011-2014.

Volunteer teacher for a science education program, *Sábado Científico* (Science Saturday), offered to children in a remote mining village near Los Amigos Field Station, Peru. 2009-2010.