

BIANCA R. PALMER BROWN

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EDUCATION

2021	Ph.D.	Ecology, Evolutionary, and Organismal Biology, Brown University <i>Thesis: Communities Within a Community: The Gut Microbiomes of Co-occurring Small Mammals in a Kenyan Savanna.</i>
2018	M.Sc.	Ecology and Evolutionary Biology, Brown University
2014	B.Sc.	Biology, CUNY York College

PROFESSIONAL APPOINTMENTS

2024-	Postdoctoral Associate, Molecular Biophysics and Biochemistry, Yale University
2025-	Affiliate, New York Genome Center
2021-24	National Science Foundation (NSF) Postdoctoral Fellow, Yale University
2017-21	Fellow, Institute at Brown for Environment and Society, Brown University
2015-17	Fellow, Brown-MBL NSF Integrative Graduate Education and Research Traineeship (IGERT), Brown University

RESEARCH INTEREST

Host-microbiome interactions; eco-evolutionary dynamics; functional proteomics; and biodiversity responses to global change

RESEARCH GRANTS HONORS & AWARDS grants external to university bolded

Grants/Fellowships

2023	ORISE Postdoctoral Fellowship – USDA Dairy and Forage Unit \$100,000 (declined)
2021	National Science Foundation Postdoctoral Fellowship \$207,000
2019	Dissertation Enhancement Grant, Bushnell Graduate Research Fund, Brown University \$10,000
2017 & 19	Institute at Brown for Environment and Society Graduate Research and Training and Travel Award Total \$7,500
2017	National Science Foundation Graduate Research Fellowship \$138,000

Awards, Honors, and Honorable mentions

2021	Brown University Alumni Exceptional Graduate Student
2021	Alternate, University of California Presidential Postdoctoral Fellowship
2020	Graduate Travel Award, Brown University
2020	Honorable Mention, Ford Foundation Dissertation Fellowship
2015	CUNY York Excellence in Biology
2015	CUNY Sigma Xi Excellence in Biological Research
2013	SSE/BEACON Undergraduate Diversity at Evolution Travel Award

REFEREED JOURNAL ARTICLE ‡ undergraduate mentee, § post-baccalaureate **co-first authors

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1. **Brown BRP**, Williams AE, Sabey KA, Onserio A, Ewoi J, Song SJ, Knight R, Ezenwa VO. 2024 Social behaviour mediates the microbiome response to antibiotic treatment in a wild mammal. *Proc. R. Soc. B* [rsbp.2024.1756](#)
 2. **Brown BRP**, Kasoha LM, Lokeny P, Jakopak, RP, Dyck M, Wambua A, Reed CG, Newsome SD, Palmer TM, Pringle RM, Goheen JR, Kartzinel TR. 2024. Spatiotemporal variation in the gut microbiomes of co-occurring wild rodent species. *Ecosphere* [10.1002/ecs2.4854](#)
 3. Rand, D Nunez, J, Williams S, Rong S, Burley J, Neil, K, Spierer, A, McKerrow, W, Johnson, D, Fayton Ts, Skvir N; Ferranti, D, Greenhill, M, Lyons, A, Okami, N; Morgan, D, Raynes, Y, Kinney K,

- Brown, BRP**; Giblin A, Cardon Z. Parasite manipulation of host phenotypes inferred from transcriptional analyses in a trematode-amphipod system. *Molecular Ecology* [10.1111/mec.17093](#)
4. **Brown BRP**, Goheen JR, Newsome SD, Pringle RM, Palmer TM, Khasoha LM, Kartzinel TR. 2023. Host phylogeny and functional traits differentiate gut microbiomes in a diverse natural community of small mammals. 2023. *Molecular Ecology* [10.1111/mec.16874](#)
 5. Alston JM, Reed C, Khasoha L, **Brown BRP**, Busenei G, Carlson N, Coverdale TC, Dudenhoeffer M, Dyck M, Ekeno J, Hassan AA, Hohbein R, Jakopak RP, Kimiti B, Kurukura S, Lokeny P, Louthan AM, Musila S, Musili PM, Tindall T, Weiner S, Kartzinel TR, Palmer TM, Pringle RM, Goheen JR. Ecological consequences of large herbivore exclusion in an African savanna: 12 years of data from the UHURU experiment. 2022. *Ecology* [10.1002/ecy.3649](#)
 6. Nunez JCB, Ferranti DA, Rong S, Damian-Serrano A, Neil K, Glenner H, Elyanow RG, **Brown BRP**, Rosenblad, MA, Blomberg A, Johannesson K, Rand D. From tides to nucleotides: genomic signatures of adaptation to environmental gradients in barnacles. 2021. *Molecular Ecology*. [10.1111/mec.15949](#)
 7. **Brown BRP**, Nunez JCB, Rand D. 2020. Characterizing the cirri and gut microbiomes of the intertidal barnacle *Semibalanus balanoides*. *BMC Animal Microbiome*. [10.1186/s42523-020-00058-0](#)
 8. Kartzinel TR, Hsing J, Musili PM, **Brown BRP**, Pringle RM. 2019. Covariation of diet and gut microbiome in African megafauna. *Proc. Nat. Acad. Sci. US*. [10.1073/pnas.1905666116](#)
 9. Alter S, **Brown BRP**, Stiassny M. 2015. Molecular phylogenetics reveals convergent evolution in lower Congo River spiny eels. *BMC Evolutionary Biology*. [10.1186/s12862-015-0507-x](#)

In review/Revisions

10. Lyons AL‡, Kartzinel RY, **Brown BRP**, Buchanan SW, Ferguson LM, Williamson BA, Kartzinel TR. Levels and partitioning of genetic variation of northeastern populations of diamondback terrapin (*Malaclemys terrapin*). In review at *Journal of Heredity*.
11. McCulloch LA, **Brown BRP**, Kartzinel TR, Taylor BN, Porder S. The sum is greater than its parts: nodules containing fixing and non-fixing bacteria have higher nitrogen fixation rates in a tropical legume. In review *New Phytologist*.
12. Khasoha, L.M., Rick, J.A., Reed, C.G., **Brown, B.R.P** [et al]. Consumer-resource interactions underlie the abundance-occupancy relationship in savanna small mammals: field tests of a macroecological pattern with populations and individuals. In review at *Ecological Monographs*.

In prep. Submission expected within next 3 months [drafts available on request]

13. **Brown BRP**, Joelles, A, Song SJ, Callaway TR, Knight R, Ezenwa EO. Pathogen driven nitrogen shifts drive microbiome variation during worm-protozoa coinfection. *Complete draft for ISME*
14. **Brown BRP**, Callaway TR, Ezenwa EO. Quantifying the influence of heat treatment on volatile fatty acids collected from feces. *Decision Support Tools, Translation Animal Science*
15. **Brown BRP**, Goheen JR, Newsome SD, Pringle RM, Palmer TM, Khasoha LM, Kartzinel TR. Defaunation and the microbiome. *Complete draft for Journal of Mammalogy*.
16. **Brown BRP**, Li X, Dzigurski S§, [et al.] Miranker AD. Alzheimer's Insights from Aβ Oligomer Induced Changes to Protein Expression in CSF and Extracellular Vesicles of the African Green Monkey. *Complete draft for Cell Systems*
17. Dzigurski S§, **Brown BRP***, [et al.] Miranker AD. Characterizing the miRNOME of the African Green Monkey as an Inducible Neurodegenerative Model. *Complete draft for BMC Genomics*

RESEARCH TALKS AND POSTERS ‡ undergraduate mentee, **co-authors present

1. LiX**, **Brown BRP***, Gursoy G, Miranker AD. Aβ Oligomer-Induced Protein Expression Changes in CSF and Extracellular Vesicles of the African Green Monkey. American Society of Human Genetics 2025. *upcoming*
2. Lyons A‡, **Brown BRP**, Williamson B, Ferguson L, Kartzinel RY, Kartzinel TK. Population genetics of diamondback terrapin at their northern range edge. New England Natural History Conference 2021. (Virtual)

3. Lyons A‡, Williamson B, Ferguson L, **Brown BRP**. 2019. Comparison of methods for surveying diamondback terrapin (*Malaclemys terrapin*) populations in tidal creeks. 8th Symposium on the Ecology, Status, and Conservation of Diamondback Terrapins. Wilmington, NC, USA (poster) *Won 2nd prize for student poster competition*
4. Reed CG**, Goheen JR, **Brown BRP**, Pringle RM, Palmer TM, Kartzinel TR. 2019. Climate-mediated rewiring of small mammal trophic networks in response to defaunation on a Kenyan savanna. 99th Annual Meeting of the American Society of Mammologists, Washington, DC, USA.
5. **Brown BRP**, Goheen JR, Malingati L, Palmer TM, Kartzinel TR. 2019. Evolutionary history predicts microbiome composition for orders, but not species, of co-occurring mammals. Evolution 2019, Providence, RI, USA (talk).
6. Evolutionary history predicts microbiome composition for orders, but not species, of co-occurring mammals. 2019. Gordon Research Conference on Animal-Microbiome Symbioses, West Dover, VT, USA (poster).
7. **Brown BRP** and Kartzinel T. 2018. The rise of small mammals: Microbiome of *Gerbilliscus robustus* in the absence of large mammalian herbivores, Institute at Brown for Environment and Society (IBES), Rhode Island, USA, (poster).
8. **Brown BRP** and Rand D. 2017. Mitochondria regulation of microbiome using mitonuclear introgression Drosophila lines in distinct natural habitats. Gordon Conference, Vermont, USA, (poster).
9. **Brown BRP** and Rand D. 2016. Understanding host-microbiome response to thermal stress in a heterogeneous environment using acorn barnacle *Semibalanus balanoides*. 2016 Evolution, Texas, USA (poster).
10. Nunez JCB**, Elyanow RG, **Brown BRP**, Rand DM. ‘Transatlantic population genomics of the northern acorn barnacle (*Semibalanus balanoides*): a comparison of FST outliers using different reference assemblies. Evolution 2016, Austin, Texas
11. **Brown BRP**. Alter, S. Stiassny, M. 2015. Diversification and Phylogeny of the *Mastacembelus* genus endemic to the Lower Congo River. Brown University Brown Bag, Rhode Island, USA (talk).
12. **Brown BRP**. 2014. Evaluating effective conservation efforts using ants as bioindicators in Pratigi, State University of Feira de Santana-Bahia, Brazil (talk).
13. **Brown BRP**. 2013. Alter, S. Stiassny, M. 2013. Effects of rapids in the Lower Congo on the diversification of *Mastacembelus brichardi* using Mitochondrial DNA, Evolution, Snowbird, Utah, USA (poster).
14. **Brown BRP**, Alter S, Stiassny M. Investigating the relationship between the *Mastacembelus* genus of Lower Congo River and other regions of Africa to understand their evolutionary history. Gurabo, Puerto Rico (talk)

INVITED SEMINARS

<i>Upcoming</i>	Biology, CUNY City College, NY, USA
2025	Biosciences, Rice University, TX, USA
2025	Molecular Biophysics and Biochemistry, Yale University, CT, USA
2023	Ecology and Evolutionary Biology-Postdoctoral Seminar, Yale University, CT, USA
2023	Animal Science, University of Georgia, GA, USA
2021	Biology, Hamilton College, NY, USA
2020	Intelligence Community Center for Academic Excellence Seminar, CUNY City College, NY, USA
2019	Biology, Rhode Island School of Design, RI, USA
2018	Institute at Brown for Environment and Society (IBES), Brown University, USA
2020	Rhode Island School of Design, RI, USA
2015	Brown Bag Seminar, Brown University, RI, USA (Talk)

TEACHING AND MENTORSHIP

Courses:

Spring 2025 Being Human In Stem, Yale University – *Final Project Advisor*
 Spring 2023 Ruminant Nutrition, University of Georgia (guest lecture)
 Fall 2021 Ruminant Nutrition, University of Georgia (guest lecture)
 Fall 2021 Ecology and Evolution of Infectious Disease (guest lecture), Yale University
 Spring 2020 Ecological Genomics (BIOL2440), Graduate Teaching Assistant, Brown University
 Spring 2019 Diversity of Life (BIOL 0210), Graduate Teaching Assistant, Brown University
 Fall 2016 Evolutionary Biology (BIOL 0480) Graduate Teaching Assistant, Brown University
 Spring 2015 Wildlife Conservation Society (WCS) Teaching Fellow, Brooklyn Aquarium

Teaching Certificates/Trainings:

Summer 2025 Exploring AI for Teaching, Research, and Productivity Poorvu Center for Teaching and Learning, Yale University
 Spring 2023 Effective Lecture Delivery, Poorvu Center for Teaching and Learning, Yale University
 Spring 2023 Universal Design for Learning, Poorvu Center for Teaching and Learning, Yale University
 Fall 2016 Sheridan Center Reflective Teaching Certificate, Brown University, USA

Undergraduate Research Supervision (‡ undergraduate mentee, § post-baccalaureate)

2024- Sara Dzigurski §, Yale University (YU)
 2024- Shannon Dalquist‡ '26, YU, History of Medicine and Science
 2023-24 Amanda Budejen‡, YU, Molecular Biophysics and Biochemistry (MBB)
 2023-24 Isabelle Lopez§, YU, Current: Weill Cornell Medical School
 2023-24 Maya Gerdes§, YU, Current: PhD program at YU
 2023-24 Akua Agyemang‡ '24, YU, MBB, Current: Weill Cornell NIH ASPIRE PREP Program
 2023-24 Ann-Marie Abuneyea ‡'24, YU, MBB, Current: Farmington Heart NIH PREP Program
 2019-20 Amanda Lyons‡ '20, Brown University, EEB, (2019 Voss Environmental Fellow)
 2019 Sophia Green‡ '19, Rhode Island School of Design

Undergraduate Fellowships:

2024 Amanda Budejen‡, Yale University, Deans Fellowship
 2024 Shannon Dalquist‡, Yale University, College Summer Fellowship
 2020. Amanda Lyons‡, Brown University, Voss Fellowship

SERVICE

To the Profession

2022- Reviewer at BMC Ecology and Evolution, *Molecular Ecology*, *Molecular Ecology Resources*, *Microbial Ecology*, *Microbiome*, *ASM Spectrum*, *Foodborne Pathogens and Diseases*, *Scientific Reports*, *Italian Journal of Animal Science*

To the University and Department:

2024 Postdoctoral Panel for next phase planning, Brown University Graduate School
 2022/23 Women in Stem at Yale Mentor (1 mentee)
 2020 Student Representative, Initiative to Maximize Student Development (IMSD) partner institution meet and greet, The Graduate School, Brown University
 2020 Kartzinel Lab representative, Virtual Lab Research Day, EEB Undergraduate Group
 2020 EEB representative, Preview Day for diverse undergraduate prospective, The Graduate School, Brown University
 2019 Graduate Student Invited Speaker Organizer, EEB Brown University
 2018-2019 Student Representative, Hiring Committee Graduate Student Representative for Organismal Biologist, EEB, Brown University
 2018-2019 Graduate Student Council Representative, EEB Brown University
 2018-2019 Planning Committee Womxn in STEM Conference. Sponsored by the Office of Diversity, Equity, and Inclusion, Brown University
 2018-2019 Planning Committee Samuel Nabrit Conference for Early Career Scholars. Sponsored by the Molecular Cell and Biochemistry Department, Brown University

2018 Student Representative, External and Internal Departmental Reviews, EEB Brown University
2017- 2019 Graduate Student Diversity Board, The Graduate School, Brown University
2017-2019 Treasurer, Black Graduate Students Association, Brown University
2016-2019 Student representative, Brown University Graduate School Super Monday (event for accepted graduate students of color) (2017-2018 organizer)

To the Public

2023-2024 Bruce Museum Monsters and Men Exhibit: DNA Forensics to identify sources of historic artifacts
2018- Creature Conserve (Science-Art non-profit)
2017-2018 Skype a Scientist
2015-2017 Brown Junior Research Program, Hennessey Middle School, East Providence, RI
2015-2016 Teaching Assistant, General Biology at Hope High School, Providence, RI

PROFESSIONAL DEVELOPMENT

Summer 2023 Ecology and Evolution of Infectious Disease Conference, Penn State University, PA, USA
Summer 2022 International Congress on Parasites of Wildlife, Kruger National Park, South Africa
Spring 2023 Proteomics and Metabolomics Workshop, University of Minnesota, MN, USA
Spring 2019 Metagenomic Speeding Up Science Hackathon, University of California Davis, CA, USA
Summer 2016 Strategic Analysis of Microbial Populations, Marine Biological Laboratories, MA, USA

REFERENCES

Dr. Tyler R. Kartzinel

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Brown University
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Dr. Vanessa O. Ezenwa

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Dr. Andrew D. Miranker

Professor, Current Postdoctoral Mentor
Molecular Biophysics and Biochemistry
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