

REBECCA M. BRUNNER

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EDUCATION

Doctorate of Philosophy (PhD) Conservation Biology	University of California, Berkeley Department of Environmental Science, Policy, and Management (ESPM) <u>Advisor:</u> Dr. Claire Kremen	Aug 2015- Aug 2022
Master of Science (MSc) Behavioral Ecology	Cornell University • Ithaca, NY Department of Neurobiology and Behavior <u>Advisor:</u> Dr. Michael Webster	Aug 2013-Dec 2015
Master of Public Administration (MPA) Environmental Science and Policy	Columbia University • New York, NY School of International and Public Affairs (SIPA) & The Earth Institute <u>Advisor:</u> Dr. Joshua Ginsberg	May 2010-May 2011
Bachelor of Arts (BA) English, Ecology (<i>magna cum laude</i>)	Cornell University • Ithaca, NY College of Arts and Sciences <u>Advisor:</u> Dr. James Eli Adams	Aug 2005-May 2009

PEER-REVIEWED PUBLICATIONS

^ =undergraduate mentees

Brunner, R.M.*, J.M. Guayasamin*, A. Valencia-Aguilar, D. Franco-Mena, E. Ringler, A. Medina Armijos[^], C. Morochz, L. Bustamante, R.J. Maynard, & J. Culebras. 2022. [Two new glassfrogs \(Centrolenidae: *Hyalinobatrachium*\) from Ecuador, with comments on the endangered biodiversity of the Andes.](#) *PeerJ*. 10:e13109. *authors contributed equally to this work

Brunner, R.M., M.D.M. Moretta-Urdiales[^], J.M. Tleimat[^], R.M. Tyler[^], J.M. Guayasamin, C. Kremen, & D. Rodriguez. 2022. [Predicting pathogen prevalence in tropical working landscapes: implications for amphibian conservation.](#) [Submitted, *Proceedings of the Royal Society B: Biological Sciences*]

Ginsberg, J.R. & **R.M. Brunner**. 2022. [Biodiversity of Mammals.](#) *Encyclopedia of Biodiversity, Third Edition*. [Accepted].

Brunner, R.M., R.L. Lynch, S. McCracken, & J.M. Guayasamin. [Unique egg deposition site and tadpole development of the cascade specialist glass frog, *Sachatamia orejuela*.](#) [In review, *South American Journal of Herpetology*].

Keeley, A.T.H., A. Laur, B. Lausche, **R.M. Brunner**, et al. 2021. [Ecological Connectivity—an Essential Component of Ecosystem Restoration.](#) United Nations Convention to Combat Desertification. The Global Land Outlook, Second edition. Bonn, Germany. [Accepted].

Brunner, R.M. and J. M. Guayasamin. 2020. [Nocturnal visual displays and call description of the cascade specialist glassfrog *Sachatamia orejuela*.](#) *Behaviour*. 57: 1257-1268.

Barve, S., A.S. Lahey, **R.M. Brunner**, W.D. Koenig, E.L. Walters. 2020. [Woodpecker wars: tracking soldiers and spectators with telemetry.](#) *Current Biology*. 30: R1-3.

Mason, N.A., **R.M. Brunner**, M. C. Ballen, I. Lovette. 2018. [Cognitive and social benefits among underrepresented first-year biology students in a field course: a case study of experiential learning in the Galápagos](#). *Frontiers: The Interdisciplinary Journal of Study Abroad*. Vol. XXX, Issue 3, 1-19.

Scheffers, B.R., **R.M. Brunner**, S. D. Ramirez, L.P. Shoo, A. Diesmos, S.E. Williams. 2013. [Thermal buffering of microhabitats is a critical factor mediating warming vulnerability of frogs in the Philippine biodiversity hotspot](#). *Biotropica*. 45: 628-635.

Brunner, R.M., K. Lai, C. Calvo Ambel, N. Valencia, B. Bendandi, & E. Soergel. 2011. [Establishing Safeguards for Biodiversity & Indigenous Rights in REDD+](#). The Coalition for Rainforest Nations: United Nations Framework Convention on Climate Change (UNFCCC).

Brunner, R.M. et al. 2010. [Back to its Roots: Reducing Emissions from Deforestation and Forest Degradation via the Copenhagen Accord](#). *Reconsidering Development* Vol.1, No. 1.

In prep:

Brunner, R.M., L. Greenstreet, M.D.M. Moretta-Urdiales[^], J.M. Tleimat[^], R. Tyler[^], J.M. Guayasamin, & C. Kremen. [Soundscapes of conservation: high-pitched calls rely on high-quality habitat](#).

Brunner, R.M., J.M. Tleimat[^], M.D.M. Moretta-Urdiales[^], D. Rodriguez, & C. Kremen. [Movement in the matrix: management matters for tropical amphibian dispersal](#).

Tleimat, J.M.[^], S.R. Fritts, **R.M. Brunner**, D. Rodriguez, R.L. Lynch, & S.F. McCracken. [Bioacoustic monitoring reveals an increase in illegal logging during COVID-19 lockdowns in Ecuador](#).

Molis, T.[^], **R.M. Brunner**, & D. Rodriguez. [Mitochondrial rearrangements in *Pristimantis achatinus* may explain incongruent amplification sizes compared to other amphibians](#).

FELLOWSHIPS & GRANTS

Charles W. Woodworth Fellowship (2021): \$25,000

American Association of University Women (AAUW) Dissertation Fellowship (2020): \$20,000

Graduate Remote Instruction Innovation Fellowship (2020): \$4,000

Cause for Conservation Graduate Fund Award (2020): \$1,674

National Geographic Explorer Grant (2019): \$9,950

National Science Foundation Graduate Research Fellowship (GRFP) (2014-2019): \$132,000

Society for Conservation Biology Graduate Student Research Fellowship (2019): \$1,000

Edna & Yoshinori Tanada Endowed Fellowship (2019): \$1,500

UC Berkeley Wildlife & Fisheries Program Grant (2017, 2018): \$4,000

Society for Conservation Biology Travel Grant (2017): \$700

USAID Global Development Fellowship (2017): \$7,500

Earth Journalism Scholars Grant (2017): \$2,000

Distinguished Fellows Video Contest, 1st Place Winner (2016): \$1,500

Walker Fund Grant (2016, 2017): \$2,400

Hellman Graduate Award (2015): \$35,000

Kieckhefer Adirondack Fellowship (2014): \$5,000

Sigma Xi Scientific Research Society Grant (2014): \$800

Student Research Grant in Animal Behavior (2014): \$750

Cornell Lab of Ornithology Athena Fund (2013): \$6,457

Women's International Leadership Program Scholar (2011): \$2,000

FIELD RESEARCH EXPERIENCE

Amphibian Conservation in Tropical Disturbance Matrices 2015-2021
Kremen Lab, University of California, Berkeley/Jama-Coaque & Mashpi Reserves, Ecuador

Collected genetic and acoustic data across amphibian communities to assess characteristics that define species ranges. Analyzed which aspects of human-dominated landscapes can be altered to facilitate conservation.

Jaguar Conservation in Cacao Mar 2017
Panthera and USDA; Pico Bonito National Park, Honduras

Placed camera traps in cacao plots outside of protected areas to assess jaguar movement within working landscapes.

Assessment of Forest Fragment Health in Oil Palm Nov 2016
Southeast Asia Rainforest Research Partnership (SEARPP); Malaysian Borneo

Assessed health of forest fragments in oil palm plantations; conducted biodiversity surveys in forest and agriculture.

Human Disease & Ecosystem Services Mar 2015 & June-Aug 2016
Ranomafana & Masoala National Park, Madagascar

Performed mosquito surveys in agriculture and national parks to assess how forests may reduce local malaria rates.

Conservation Planning in the Australian Wet Tropics Aug-Dec 2014
Centre for Tropical Biodiversity & Climate Change, James Cook University; Townsville, Australia

Analyzed long-term home range datasets for over 200 taxa, climate change model outputs, and behavioral data to identify the most important future corridors in the Australian Wet Tropics. Results presented to local management.

Herpetological Survey & Climate Change Impact Assessment June-Sept 2011
Mount Banahaw, Barangay Bucal; Luzon, Philippines

Conducted biodiversity surveys of frogs and reptiles along an elevation gradient; ran and analyzed temperature threshold experiments on captured frogs from various microhabitats. Managed field team when leader was away.

Avian Incubation Behavior Along an Elevation Gradient Aug-Dec 2009
Manu National Park, Peru

Conducted bird biodiversity surveys; set up camera traps to monitor predation and incubation behavior; searched for nests, placed temperature sensors in eggs, in nests, and outside of nests. Lived in a tent for 5 months.

TEACHING CERTIFICATES & AWARDS

Outstanding Graduate Student Instructor Award | University of California, Berkeley
Nominated by undergraduate students and faculty; campus-wide award.

Certificate in Teaching and Learning in Higher Education | University of California, Berkeley
Completed 8 pedagogy courses & workshops, teaching conference, in-class faculty observations, teaching portfolio.

Teaching Innovation Fellow/Certificate in Remote Instruction | University of California, Berkeley
Completed 8-week course in best practices for online teaching & learning; developed materials to share knowledge.

Teaching Conservation Science | Network of Conservation Educators and Practitioners & AMNH
Completed 2-day workshop on best practices in conservation-related pedagogy & case study development.

TEACHING EXPERIENCE: Instructor of Record

Ecology and Society in Bali (Field course)

Winter 2019 & 2022

St. Mary's College of California/Bali, Indonesia

One of two main instructors on a 4-week study abroad course for undergraduates. Developed ecology course content. Lectured about conservation biology and tropical ecology. Helped students develop research ideas and discuss the intersection of conservation and local livelihoods while traveling to habitats and cultural sites throughout Bali.

Conservation Ecology in Ecuador (Field course)

Summer 2017

Texas State University/Field stations throughout Ecuador

One of main instructors of a 5-week study abroad course for undergraduates. Helped students develop research ideas and discuss scientific papers while traveling to different ecosystems throughout Ecuador. Lectured about conservation biology, tropical ecology, herpetology, and scientific writing. Taught students various field measurement techniques while keeping up morale in physically and mentally challenging conditions.

Galápagos Curriculum (Hybrid classroom/Field course)

Spring 2013 & 2014

Cornell University; Ithaca, NY/Galápagos Islands, Ecuador

Designed an interdisciplinary freshman curriculum: 1) evolutionary biology course with a special discussion section focused on Galápagos examples, 2) writing seminar on the conservation and human history, and 3) 10-day spring break excursion to the Galápagos, where students learned evolutionary concepts and field techniques first-hand. Independently taught the writing seminar course for two years. One of two leaders on the field portion. Secured funding from various sources to fully pay for the international travel component of course for students from underrepresented backgrounds. This curriculum was recently added permanently to the Cornell roster.

TEACHING EXPERIENCE: Graduate Student Instructor (GSI)

Wildlife Management & Policy in the 21st Century

Fall 2021

University of California, Berkeley [Remote Instruction]

Independently designed and taught two sections for an undergraduate course that introduces students to major management and policy paradigms in the US. Also gave guest lectures on international wildlife policy.

Culture & Natural Resource Management

Summer 2020

University of California, Berkeley [Remote Instruction]

Head GSI for undergraduate course on the role human culture has played in natural resource management. Designed section material for other GSIs. Taught three sections (3 hours each/week). Managed and supported other GSIs.

Advanced Topics in Conservation Biology

Fall 2018

University of California, Berkeley

Co-lectured in a seminar for graduate and advanced undergraduate students. Developed reading list, supervised student projects, assisted in student evaluation. Responsible for international conservation, ecology, and policy lectures.

Environmental Philosophy & Ethics

Fall 2018

University of California, Berkeley

Facilitated discussions in two sections designed to teach students to think critically about dilemmas in environmental ethics. Also taught history of science concepts. Developed case studies and activities. Guest lectured to >200 students.

MENTORSHIP

Undergraduate Mentor, “Real Talk Buddies” , University of California, Berkeley	2022-present
Undergraduate Thesis Co-Advisor , Texas State University	2020-present
Undergraduate Thesis Co-Advisor , University of British Columbia, Vancouver	2020-2021
Advisor , Sponsored Projects for Undergraduate Research, University of California, Berkeley	2018-2020
Advisor , Undergraduate Research Apprentice Program, University of California, Berkeley	2018-2019
Mentor to Field Assistants , Ecuador (8+)	Jan 2018-present
Mentor to Field Interns , Jama-Coaque Reserve, Ecuador	May 2017-present
Biology Scholars Program Leader , Cornell University	2013-2015

EDUCATIONAL OUTREACH

Review Editor, *Frontiers for Young Minds—Understanding Biodiversity* July 2018-present

Mentor students through the process of writing a popular science article based on a real peer-reviewed paper, a program facilitated through the open-access publication *Frontiers*. <https://kids.frontiersin.org/>

Volunteer Speaker, Grade School & Junior High Science Classes Jan 2017-present

Speak in classrooms (grades 4-8) about conservation biology, tropical ecology, animal behavior, and the life/career path of a field biologist. Encourage students to care about sustainability and climate change.

Environmental Education Evaluation Project, UC Berkeley Extension July-Aug 2018

Assisted with observations of summer camps across a myriad of objectives, including social and emotional development, behavioral change, scientific knowledge gain, and adoption of environmental stewardship ideals. Administered quantitative (surveys) and qualitative (observation, free write/draw sessions, short interviews) tools across multiple levels (campers, helpers, & parents) to evaluate the camp.

PRESENTATIONS

Conservation in the Tropics Oct 2021
Invited Lecture, Texas A&M University

Bioacoustics & Conservation July 2021
Invited Lecture, Mashpi Field & Research Center, Ecuador

How to Describe a New Species June 2021
Invited Lecture, Mashpi Field & Research Center, Ecuador

Soundscapes and Movement in the Matrix Nov 2019
Guest Lecture in Tropical Ecology Course; Texas State University, San Marcos, Texas

Soundscapes of Conservation: Amphibian Acoustic Space & Behavior July 2019
Invited Lecture, Mashpi Field & Research Center, Ecuador

The Science of Discovery July 2019
Invited Lecture, Mashpi Field & Research Center, Ecuador

Functional Traits Along a Disturbance Gradient: Implications for Anuran Conservation Oct 2018
Student Conference on Conservation Science; American Museum of Natural History, New York City

- Resilience-Based Prioritization in the Australian Wet Tropics** Aug 2017
International Congress for Conservation Biology, Society for Conservation Biology; Cartagena, Colombia
- Resilience-Based Prioritization of Tropical Fauna** May 2016
Bay Area Conservation Biology Symposium; Stanford University, Palo Alto, California
- REDD+ Biodiversity & Indigenous Rights Safeguard Recommendations** April 2011
United Nations Framework Convention on Climate Change & Coalition for Rainforest Nations; Bangkok, Thailand
- Developed a monitoring, reporting, and verification recommendation report to ensure safeguards for biodiversity and indigenous rights within REDD+ (Reducing Emissions from Deforestation and Forest Degradation), which aims to provide monetary incentives to keep forests standing in exchange for carbon credits and ecosystem services. Presented recommendations to Ministers of the Environment from over 40 tropical nations.

WORK EXPERIENCE

- Freelance Editor** Jan 2016-present
Edit publications including scientific papers, grants, and children's books for accuracy, style, and clarity.
Examples: *Biodiversity of Mammals*, Encyclopedia of Biodiversity (2nd edition); *Fanatical About Frogs* by Owen Davey
- Developmental Editor, Handbook of Bird Biology (College Textbook)** Feb 2012-May 2015
The Cornell Lab of Ornithology; Ithaca, NY
Served as the Developmental Editor on the Handbook of Bird Biology (3rd edition), the leading ornithology textbook for undergraduates and lifelong learners. Ensured that content was consistently comprehensible yet appropriately challenging for target audience (college-level undergraduates). Identified gaps in information or scientific explanations, restructured sections for maximum clarity, and rewrote sections to maintain a consistent style.
- Consultant & Research Team Manager, REDD+ Environmental Safeguard Report** Jan-May 2011
Coalition for Rainforest Nations; New York, NY
Worked as a research consultant to facilitate agreements across government, academia, and industry regarding complex issues surrounding tropical rainforest sustainability. Our team developed a recommendations report for the social and environmental safeguards of the United Nations REDD+ (Reducing Emissions from Deforestation and Forest Degradation) program. Identified aspects of the policy that posed serious threats to wildlife. Ensured that biodiversity conservation and indigenous rights were serious considerations in the strategic plan.

LEADERSHIP

- Third Millennium Alliance/Jama-Coaque Reserve, Ecuador:** Senior Researcher (2019-present)
- Society for Conservation Biology, Berkeley Chapter:** President (2017-2019), Vice President (2015-2017)
- Graduate Student Assembly, UC Berkeley:** O&E Faculty Liaison (2016-2017)

ACADEMIC SOCIETY MEMBERSHIPS

- Ecological Society of America (ESA)**
- Society for Conservation Biology (SCB)**
- Animal Behavior Society (ABS)**
- Society for the Study of Amphibians and Reptiles (SSAR)**
- New York Academy of Sciences (NYAS)**
- Texas Herpetological Society (THS)**