CAIT A. MCDONALD

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EDUCATION

PhD	Cornell University, Department of Ecology & Evolutionary Biology Advisor: Kelly Zamudio	*expected June 2020*
DVM	Cornell University, College of Veterinary Medicine Zoo & Wildlife Pathway	2014
BA	Scripps College Biology with honors, *magna cum laude,* McClintock Award for best senior thesis	2007

PEER-REVIEWED PUBLICATIONS

4. B.C. Scheele, F. Pasmans, L. Berger, L.F. Skerratt, A. Martel, W. Beukema, A.A. Acevedo, P.A. Burrowes, T. Carvalho, A. Catenazzi, I. De La Riva, M.C. Fisher, S.V. Flechas, C.N. Foster, P. Frías-Álvarez, T.W.J. Garner, B. Gratwicke, J.M. Guayasamin, M. Hirschfeld, J.E. Kolby, T.A. Kosch, E. La Marca, D.B. Lindenmayer, K.R. Lips, A.V. Longo, R. Maneyro, **C. McDonald**, J. Mendelson, P. Palacios-Rodriguez, G. Parra-Olea, C.L. Richards-Zawacki, M.O. Rödel, S.M. Rovito, C. Soto-Azat, L.F. Toledo, J. Voyles, C. Weldon, S.M. Whitfield, M. Wilkinson, K.R. Zamudio, S. Canessa. The aftermath of an amphibian fungal panzootic reveals unprecedented loss of biodiversity. *Science*, 363: 1459-1463. ***Media coverage:*** *New York Times, The Atlantic, Washington Post, National Geographic, Scientific American, Forbes, Wired*
3. Bower, D., L. Brannelly, **C. McDonald**, R. Webb, S. Greenspan, M. Vickers, M. Gardner, M. Greenlees. A review of the role of parasites in the ecology of reptiles and amphibians. *Austral Ecology*, 44: 433-448.
2. Fitak, R., J.D. Antonides, E.J. Baitchman, E. Bonaccorso, J. Braun, S. Kubiski, A.C. Fagre, R.B. Gagne, J.S. Lee, J.L. Malmberg, M.D. Stenglein, R.J. Dusek, D. Forgacs, N.M. Fountain-Jones, M.L.J. Gilbertson, K.E.L. Worsley-Tonks, W.C. Funk, D.R. Trumbo, B.M. Ghersi, W. Grimaldi, S.E. Heisel, C.M. Jardine, P.L. Kamath, D. Karmacharya, C.P. Kozakiewicz, S. Kraberger, D.A. Loisel, **C. McDonald**, S. Miller, D. O'Rourke, C.N. Ott-Conn, M. Páez-Vacas, A.J. Peel, W.C. Turner, M.C. VanAcker, S. VandeWoude, J. Pecon-Slattery. The expectations and challenges of wildlife disease research in the era of genomics: forecasting with a horizon scan-like exercise. *Journal of Heredity*,110(3): 261-274.
1. Ellison, A, G. DiRenzo, **C. McDonald**, K. Lips, K. Zamudio. First in vivo *Batrachochytrium dendrobatidis* transcriptomes reveal mechanisms of host exploitation, host-specific gene expression, and expressed genotype shifts. *G3: Genes| Genomes| Genetics*, 7(1): 269-278.

PUBLICATIONS IN REVIEW

1. **McDonald, C.**, A. Ellison, T. James, F. Toledo, K. Zamudio. Gene expression varies within and between enzootic and epizootic lineages of *Batrachochytrium dendrobatidis* in the Americas. Revised and resubmitted to *Fungal Biology* (July 2019).

FELLOWSHIPS & FUNDING

Fellowships

2019-present	Morris Animal Foundation Fellowship Training Grant, Morris Animal Foundation
2018	Paul Fellowship, Ecology & Evolutionary Biology Dept.
2015	East Asia Pacific Island Summer Institute (EAPSI), NSF/AAS
2010-present	Combined D.V.M./Ph.D. Fellow, College of Veterinary Medicine/Ecology & Evolutionary Biology Dept.
2010	Veterinary Investigator Program, College of Veterinary Medicine, Cornell University
2007-'08	Thomas J. Watson Fellow, Tanzania, Zambia, South Africa, Mozambique, Ghana

Research & travel grants

2019, '15 Center for Vertebrate Genomics Conference Grant
2018 Andrew W. Mellon Research Award, Sigma Xi Cornell Chapter, CALS Alumni Association
2018, '17, '15 Graduate School Conference Grant
2018, '15 Paul P. Feeny Graduate Student Research Award, Ecology & Evolutionary Biology
2017 Orenstein Fund, Ecology & Evolutionary Biology
2016 Sustainable Biodiversity Fellowship, Atkinson Center for a Sustainable Future
2015 Kieckhefer Adirondack Fellowship, Graduate School Research Travel Grant
2014 Center for Vertebrate Genomics Seed Grant, College of Veterinary Medicine Course Grant

PRESENTATIONS

Invited lectures, Cornell University

2019, '17, '15 **McDonald, C.** Investigating host-pathogen interactions in amphibian systems. BIOEE4700: Herpetology
2018 **McDonald, C.** & M. Chatterjee. Implicit Bias in STEM, Ecology & Evolutionary Biology Dept. Symposium
2015 **McDonald, C.** Chytridiomycota and the rise in fungal pathogens. BIOEE1780: Evolution and Diversity
McDonald, C. Frogs in decline and salamanders on the brink. Cornell Herpetological Society

Invited conference presentations

2016 Ellison, A. G. DiRenzo, **C. McDonald**, K. Lips, K. Zamudio. Dual RNA-seq reveals functional divergence in *Batrachochytrium dendrobatidis*. EvoDay: Evolution and Conservation, Ithaca, NY
Ellison, A. G. DiRenzo, **C. McDonald**, K. Lips, K. Zamudio. Functional and Evolutionary Divergence in the amphibian-killing fungus, *Batrachochytrium dendrobatidis*. EEID, Ithaca, NY

Contributed talks and posters

2019 Ecology & Evolution of Infectious Diseases (EEID), Princeton, NJ (Poster)
2018 Wildlife Disease Association, St. Augustine, FL (Presentation)
2017 International Congress for Conservation Biology, Cartagena, Colombia (Poster)
2016 Annual Symposium, Atkinson Center for a Sustainable Future, Ithaca, NY. (Presentation)
2015 Amphibian Pathogens Annual Meeting, Tempe, AZ. (Presentation)
2010 Merck-Merial NIH Veterinary Scholars Research Symposium, Athens, GA. (Poster)

TEACHING EXPERIENCE

Instructor of record, Cornell University

2016 Socially Responsible Wildlife Conservation in a Postcolonial World (BIOEE1640; First-year Writing Seminar)
- Conceived of, designed, and taught discipline-based writing course for 17 first-year undergraduates
- ***First place, John S. Knight Award for best original writing exercise***
- ***Student award, first place: James E. Rice, Jr. Award for best essay (Helen Butler '20)***

TAships, Cornell University

2019, '17, '15 Herpetology (BIOEE4700 & 4701)
- ***Outstanding Graduate Teaching Assistant, College of Arts and Life Sciences (2019)***

2018, '14 An Introduction to Evolutionary Biology and Diversity (BIOEE1780)
2016 The Vertebrates: Comparative Anatomy, Function, and Evolution (BIOEE2740)

STUDENT MENTORING

Melissa Hernández Poveda, Universidad de los Andes REU student, CienciAmerica (2018); Brianna Mims, McNair Scholar (2016-'18); secondary mentoring, Zamudio lab: Sean McHugh, Jalia Dash, Miranda Arnold, Allison Haigh (2014-present)

SERVICE AND OUTREACH

2018-present Co-Chair, Equity Committee, Ecology & Evolutionary Biology Dept.

2016-present Co-founder and Co-Chair, Cornell Diversity Preview Weekend (DPW), Ecology & Evolutionary Biology, Neurobiology & Behavior, School for Integrated Plant Sciences, & Entomology Depts.

- Designed, implemented, and led graduate student-run program to recruit underrepresented and marginalized graduate student applicants
- ***Office of Inclusion & Student Engagement Change Agent Award (2017)***

2017 Short course instructor, Graduate Student School Outreach Program (GRASSHOPR), Belle Sherman Elementary School

2016-'17 Committee member, Graduate Student Diversity and Inclusion Group, Ecology & Evolutionary Biology Dept.

2016 Volunteer, Expanding Your Horizons, Cornell University

2015-'17 Committee member, Richard B. Root Graduate Student Invited Speaker Committee, Ecology & Evolutionary Biology Dept.

2010-'14 Student Representative, Curriculum Committee, College of Veterinary Medicine, Cornell University

2011-'12 President, College of Veterinary Medicine LGBTQIA Student Association, Cornell University

RESEARCH EXPERIENCE

2014-present PhD Candidate, Zamudio Lab, Cornell University

- Dissertation: host and pathogen plasticity and evolution in the *Batrachochytrium*-amphibian system
- Extensive experience genomics and transcriptomics workflows (isolation, library prep, bioinformatics)
- Expertise in histology, cryosectioning, LCM, fungal culture, animal husbandry, field sampling

2012 DVM/PhD research rotation, Zamudio Lab (Disease Ecology/Population Genetics), Cornell University

- Investigated historical prevalence and evolution of *Batrachochytrium dendrobatidis* in Brazil
- Optimized nested PCR protocol, familiarized with qPCR, cloning, and sequencing techniques

2011 DVM/PhD research rotation, Hermanson Lab (Zoology), Cornell University

- Surveyed effects of White-nose syndrome on little brown bats in central New York
- Collaborated with researchers in zoology and natural resources departments to assess declines

2010 DVM/PhD research rotation, Gröhn Lab (Epidemiology), Cornell University

- Modeled *E. coli* O157:H7 metapopulations in the dairy cattle feedlot environment
- Gained proficiency with epidemiological approaches (discrete, continuous, and Markov modeling)

2007-'08 Thomas J. Watson Fellow, Tanzania, Zambia, South Africa, Mozambique, Ghana

- Independently surveyed illegal bushmeat hunting via interviews with all stakeholders
- Communicated with poachers, wildlife veterinarians, game rangers, park wardens, vendors, community members, consumers, and other parties to assess dynamics of the bushmeat trade

VETERINARY EXTERNSHIPS

Bronx Zoo, Philadelphia Zoo, Zoo Atlanta (2014); San Diego Zoo Pathology Service (2013)

COMPUTING PROFICIENCIES & BIOINFORMATICS TRAINING

Proficiencies: R, Python, command line

Training: Genomics of Disease in Wildlife, Colorado State University (2017); Bioinformatics workshop series, Cornell Biotechnology Resource Center (2015); Proteomics course, Cold Spring Harbor Laboratory (2015)

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Society for Conservation Biology, Society for the Study of Evolution, Wildlife Disease Association, Sigma Xi, Phi Zeta, Phi Beta Kappa