Jeffrey M. DaCosta, Ph.D.
Biology Department
Boston College
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EDUCATION

2014 Ph.D. Biology
Department of Biology, Boston University, Boston, MA
Academic Advisor: Dr. Michael Sorenson

2006 M.Sc. Biology
School of Life Sciences, University of Nevada, Las Vegas, NV
Academic advisors: Dr. John Klicka and Dr. Brett Riddle

1998 B.S. Biology
Department of Biology, University of Massachusetts, Amherst, MA

PROFESSIONAL APPOINTMENTS

2022-Present Associate Professor of the Practice
Biology Department, Boston College, Chestnut Hill, MA

2016-2022 Assistant Professor of the Practice
Biology Department, Boston College, Chestnut Hill, MA

2004-Present Research Equipment Program Chair and Board Member
Neotropical Grassland Conservancy
NGO dedicated to the conservation of Neotropical grasslands

2014-2016 Post-doctoral Fellow
Dept. Organismic and Evolutionary Biol., Harvard University, Cambridge, MA
Comparative genomics of a species radiation: sequencing the apple tribe

2007-2014 Research and Teaching Fellow
Department of Biology, Boston University, Boston, MA

2005-2006 Research Technician
School of Life Sciences, University of Nevada, Las Vegas, NV
Surveys of flammulated owls (*Otus flammeolus*) in Nevada

2003-2006 Research and Teaching Assistant
School of Life Sciences, University of Nevada, Las Vegas, NV

2000-2003 R&D Specialist I
Transkaryotic Therapies, Cambridge, MA

Pre-clinical research using a knockout mouse model

1999-2000 Field Assistant
Dept. of Ecology and Evolutionary Biol., Cornell University, Ithaca, NY
Worked for PhD candidates in David Winkler's lab at Cornell

1998 Intern
US Department of Agriculture, Mapleton, OR
Population monitoring of the northern spotted owl (*Strix occidentalis*)

PUBLICATIONS

Patel SV, Leeman BM, Botros PJ, Folta J, Shahid D, Rocque AI, Joyal AS, Vecchio JA , Passell E, Tien D, Reynolds Z, Su K, Vyas TD, Vyas JM, Abar E, Barry M, Alexandrescu A, Wallace Z, **DaCosta JM**, Choudhary MC, Tamura T, Edelstein G, Li Y, Deo R, Sparks JA, Boucau J, Glover O, Barczak A, Lemieux J, Siedner MJ, Li JZ, Fofana IB. *Submitted*. Cross-neutralization of distant coronaviruses correlates with Spike S2-specific antibodies from immunocompetent and immunocompromised vaccinated SARS-CoV-2-infected patients. Scientific Reports.

Delmore K, **DaCosta JM**, Winker K. 2025. Thrushes in love: extensive gene flow, with differential resistance and selection, obscures and reveals the evolutionary history of a songbird clade. Molecular Ecology. e17635.

Girdhar K, Mine K, **DaCosta JM**, Atkinson MA, Ludvigsson J, Altindis E. 2024. Sex-specific cytokine, chemokine, and growth factor signatures in T1D patients and progressors. FASEB Journal. 38: e70270.

Vecchio J, Regan J, Jiang Y, Li R, Romain H, Yousuf F, Adel T, Hall K, **DaCosta JM**, Yu X, Li JZ, Fofana IB. 2023. Viral and immunologic evaluation of smokers with severe COVID-19. Scientific Reports. 13: 17898.

Wilson RE, Sonsthagen SA, **DaCosta JM**, Sorenson MD, Fox AD, Weaver M, Skalos D, Kondratyev AV, Scribner KT, Walsh A, Ely CR, Talbot SA. 2022. As the Goose Flies: Migration Routes and Timing Influence Patterns of Genetic Diversity in a Circumpolar Migratory Herbivore. Diversity. 14: 1067.

Spottiswoode CN, Tong W, Jamie GA, Stryjewski KF, **DaCosta JM**, Kuras ER, Green A, Hamama S, Taylor IG, Moya C, Sorenson MD. 2022. Genetic architecture facilitates then constrains adaptation in a host–parasite coevolutionary arms race. Proceedings of the National Academy of Sciences – USA. 119: e2121752119.

DaCosta JM and Sorenson MD. 2021. Variation in the non-mimetic vocalizations of brood-parasitic indigobirds and their potential role in speciation. Frontiers in Ecology and Evolution. 9: 725979.

Larison B, Lindsay AR, Bossu C, Sorenson MD, Kaplan JD, Evers DC, Paruk J, **DaCosta JM**, Smith TB, Ruegg K. 2021. Leveraging genomics to understand threats to migratory birds. Evolutionary Applications. 14: 1646-1658.

Feng F… (>100 authors)... **DaCosta JM**… Zhang G. 2020. Dense sampling of bird diversity increases power of comparative genomics. Nature. 587: 252-257.

D'Urban Jackson J, Bruford MW, Székely T, **DaCosta JM**, Sorenson MD, Russo IM, Maher KH, Cruz-López M, Galindo-Espinosa D, Palacios E, de Sucre-Medrano AE, Cavitt J, Pruner R, Morales AL, Gonzalez O, Burke T, Küpper C. 2020. Population differentiation and historical demography of the threatened snowy plover *Charadrius nivosus* (Cassin, 1858). Conservation Genetics. 21: 387-404.

Povilus RA, **DaCosta JM**, Grassa C, Satyaki PRV, Moeglein M, Jaenisch J, Xi Z, Mathews S, Gehring M, Davis CC, Friedman WE. 2020. Water lily (*Nymphaea thermarum*) genome reveals variable genomic signatures of ancient vascular plants cambium losses. 2020. National Academy of Sciences – USA. 117: 8649-8656.

Wells CP, Lavretsky P, Sorenson MD, Peters JL, **DaCosta JM**, Turnbull S, Uyehara KJ, Malachowski CP, Dugger BD, Eadie JM, Engilis Jr A. 2019. Persistence of an endangered native duck, feral mallards, and multiple hybrid swarms across the main Hawaiian Islands. Molecular Ecology. 28: 5203-5216.

Dongmo JB, **DaCosta JM**, Djieto-Lordon C, Ngassam P, Sorenson MD. 2019. Variable phylogeographic histories of five forest birds with populations in Upper and Lower Guinea: implications for taxonomy and evolutionary conservation. Ostrich. 90: 257-270.

DaCosta JM, Miller MJ, Mortensen JL, Reed JM, Curry RL, Sorenson MD. 2019. Phylogenomics clarifies biogeographic and evolutionary history, and conservation status of West Indian tremblers and thrashers (Aves: Mimidae). Molecular Phylogenetics and Evolution. 136: 196-205.

Lavretsky P, **DaCosta JM**, Sorenson MD, McCracken KG, Peters JL. 2019. ddRAD‐seq data reveal significant genome‐wide population structure and divergent genomic regions that distinguish the mallard and close relatives in North America. Molecular Ecology. 28: 2594-2609.

Wilson RE, Sonsthagen SA, **DaCosta JM**, Ely CR, Sorenson MD, Talbot SL. 2019. Identification of single nucleotide polymorphisms for use in a genetic stock identification system for greater white-fronted goose (*Anser albifrons*) subspecies wintering in California. US Geological Survey Open-File Report 2019-1040.

Peters JL, Lavretsky P, **DaCosta JM**, Bielefeld RR, Feddersen JC, Sorenson MD. 2016. Population genomic data delineate conservation units in mottled ducks (*Anas fulvigula*). Biological Conservation. 203: 272-281.

Arnold BJ, Lahner B, **DaCosta JM**, Weisman CM, Hollister JD, Salt DE, Bomblies K, Yant L. 2016. Borrowed alleles and convergence: serpentine adaptation in the face of inter- and

intraspecifc gene flow. Proceedings of the National Academy of Sciences – USA. 113: 8320-8325.

DaCosta JM and Sorenson MD. 2016. ddRAD-seq phylogenetics based on nucleotide, indel, and presence-absence polymorphisms: analyses of two avian genera with contrasting histories. Molecular Phylogenetics and Evolution. 94: 122-135.

Lavretsky P, **DaCosta JM**, Hernández-Baños B, Engilis A, Sorenson MD, and Peters J. 2015. Speciation genomics and a role for the Z chromosome in the early stages of divergence between Mexican ducks and mallards. Molecular Ecology. 24: 5364–5378.

Ebel E, **DaCosta JM**, Sorenson MD, Hill R, Briscoe A, Willmott K, and Mullen S. 2015. Rapid diversification associated with ecological specialization in Neotropical *Adelpha* butterflies. Molecular Ecology. 24: 2392-2405.

DaCosta JM and Sorenson MD. 2014. Amplification biases and consistent recovery of loci in a double-digest RAD-seq protocol. PLoS One. 9: e106713.

DaCosta JM and Sorenson MD. 2014. An experimental test of host song mimicry as a species recognition cue among male brood parasitic indigobirds (*Vidua* spp.). Auk: Ornithological Advances. 131: 549-558.

Sorenson MD and **DaCosta JM**. 2011. Genotyping HapSTR loci: phase determination from direct sequencing of PCR products. Molecular Ecology Resources. 11: 1068-1075.

DaCosta JM, Spellman GM, Escalante P, and Klicka J. 2009. A molecular systematic revision of two historically problematic songbird clades: *Aimiphila* and *Pipilo*. Journal of Avian Biology. 40: 206-216.

DaCosta JM, Wehtje W, and Klicka J. 2008. Historic genetic structure and paraphyly within the Great-tailed Grackles. Condor. 110: 170-177.

DaCosta JM and Klicka J. 2008. The Great American Interchange in birds: a phylogenetic perspective with the genus *Trogon*. Molecular Ecology. 17:1328-1343.

DaCosta JM, Spellman GM, and Klicka J. 2007. Bilateral gynandromorphy in a White-ruffed Manakin (*Corapipo altera*). Wilson Journal of Ornithology. 119:289-291.

Garcia AR, **DaCosta JM**, Pan J, Muenzer J, and Lamsa JC. 2007. Preclinical dose ranging studies for enzyme replacement therapy with idursulfase in a knock-out mouse model of MPS II. Molecular Genetics and Metabolism. 91:183-190.

Muenzer J, Lamsa JC, Garcia AR, **DaCosta JM**, Garcia J, and Treco DA. 2002. Enzyme Replacement therapy in muccopolysaccharidosis type II (Hunter syndrome): a preliminary report. Acta Paediatrica Supplement. 91:98-99.

TEACHING EXPERIENCE

2016-Present Assistant/Associate Professor of the Practice
Biology Department, Boston College, Chestnut Hill, MA
BIOL2010: Ecology and Evolution

BIOL2300: Biostatistics
BIOL4075: Research in Molecular Phylogenetics (new course)
BIOL4410: Ornithology (new course)
BIOL4450: Behavioral Ecology (new course)
BIOL4802: Research in Evolutionary Genomics (new course)
BIOL6160: Graduate Bioinformatics

2015 Lecturer
College of General Studies, Boston University, Boston, MA
CGS NS201: Biology 1

2014 Lecturer (course designer)
Experimental College, Tufts University, Medford, MA
EXP-0032-F: Renewable Energy: The Ecological Impacts

2007-2013 Teaching Fellow[1] and Guest Lecturer[2]
Department of Biology, Boston University, Boston, MA
CAS BI 302: Vertebrate Zoology[1]
CAS BI 303: Evolutionary Ecology[1,2]
CAS BI 407: Animal Behavior[1]
CAS BI 508: Behavioral Ecology[1,2]
ZOOL 733: Behavioral Ecology[2] (University of New Hampshire)

2003-2005 Teaching Assistant
School of Life Sciences University of Nevada Las Vegas, Las Vegas, NV
BIOL 189: Fundamentals of Life Science

GRANTS AND AWARDS

2019: Boston College Ignite Program – Environmental DNA as an emergent tool to study the ecology of temperate forests ($14,017)
2018: NSF DEB – Collaborative Research: Comparative Genomics of Host-specific Adaptation and Life History Evolution of Brood Parasitic Birds ($99,106)
2013: 1st Place (poster): BU Biology Graduate Student Association student symposium.
2011: Boston University Department of Biology Outstanding Teaching Fellow.
2010: NSF DDIG – RAD phylogenetics: harnessing next-generation sequencing for molecular systematics ($13,223).
2008: American Museum of Natural History Chapman Memorial Grant ($2,100).
2005: UNLV Graduate Research Assistantship Training Grant ($3,600).
2005: 1st Place (oral): UNLV Graduate and Professional Student Organization research forum.
2004-2006: UNLV Graduate and Professional Student Association grant (x4) ($2,250).

PRESENTATIONS & WORKSHOPS

Invited Speaker:

2014: University of Massachusetts Lowell, Lowell, MA.
2013: Louisiana State University Museum of Natural History, Baton Rouge, LA.
2013: Wright State University, Dayton, OH.
2012: American Museum of Natural History, New York, NY.
2009: University of Dar es Salaam & Houghton College (Tanzania campus), Tanzania.
2008: Colby College, Waterville, ME.

Professional Meetings:

2014: Evolution, Raleigh, NC.
2012: North American Ornithological Conference, Vancouver, BC.
2009: American Ornithologists' Union, Philadelphia, PA.
2009: Society of Integrative and Comparative Biology, Boston, MA.
2008: Evolution, Minnesota, MN.
2005: American Ornithologists' Union, Santa Barbara, CA.

Professional Workshops:

2022/23: Faculty Cohorts on Teaching: Applying Learning Sciences to Our Teaching. – Center of Teaching Excellence, Boston College, Chestnut Hill, MA.
2011: Evolutionary Genomics of Non-Model Species: Next Generation Sequencing, Data Management, and Hypothesis Testing. – American Genetics Association, Irapuato, Mexico.
2010: Genetics and Genomics of Speciation. – EU Marie Curie Initial Training Network, Speciation, Sheffield, Great Britain.

ACADEMIC SERVICE

Committee Member:

Academic Integrity Committee, Morrissey College of Arts and Sciences, Boston College.
Curriculum Committee, Biology Department, Boston College.
Tree Campus USA, Boston College.

Undergraduate Academic Advisor:

Faculty advisor for 30-40 undergrad Biology majors per semester, Boston College.
Faculty mentor for students in McNair Exploratory Program, Boston College.

Undergraduate Research Advisor:

Mentor ~4-6 undergraduate students in independent research, Boston College.

Graduate Research Advisor:

Faculty representative on comprehensive exams for graduate students, Boston College.

Serve on advisory committees for graduate students, Boston College.

Student Group Advisor:

Life Sciences Journal, Boston College.

COMMUNITY MEMBERSHIP, SERVICE, and OUTREACH

Society Memberships:

American Ornithological Society (Elective Member)

Society of Systematic Biologists

Nature Organization Memberships:

Mass Audubon, Neotropical Grassland Conservancy, Trustees of the Reservation

Grant Reviewer:

National Science Foundation, Portuguese Foundation of Science and Technology.

Journal Reviewer:

African Journal of Ecology, Auk: Ornithological Advances, BMC Evolutionary Biology, Evolution, Journal of Biogeography, Journal of Caribbean Ornithology, Journal of Heredity, Molecular Ecology, Molecular Ecology Resources, Molecular Phylogenetics and Systematics, PeerJ, Wilson Journal of Ornithology, Zoological Journal of the Linnean Society.

Outreach:

Boston University GK-12 program, 5th grade, Pierce School, Brookline, MA.

Guest lecture, Runkle Elementary School ScienceFest, Brookline, MA.

Guest lecture, Cub Scouts, Rehoboth, MA.

Biology Inquiry and Outreach with Boston University Graduate Students (BIOBUGS).

Judge, The English High School Science Fair, Boston, MA.