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EDUCATION

- 2011 Ph.D. Ecology and Evolutionary Biology, Purdue University.
 Advisor: Rick Howard
- 2005 M.S. Biological Sciences, Murray State University.
 Advisor: Howard Whiteman
- 2003 B.A. Biological Sciences, The College of Wooster.
 Advisor: Vikram Iyengar

PROFESSIONAL EXPERIENCE

- 2016-present Assistant Professor, Department of Biological Sciences, Towson University, Towson, MD.
- 2013-2016 Post-doctoral Research Associate, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN.
 Supervisor: J. Andrew DeWoody
- 2012 Visiting Instructor, Department of Biological Sciences, Purdue University, West Lafayette, IN.
 Supervisor: Jeffrey Lucas
- 2006-2011 Research/Teaching Assistant, Department of Biological Sciences, Purdue University, West Lafayette, IN.
 Advisor: Rick Howard
- 2008-2009 NSF GK-12 Fellow, Department of Biological Sciences, Purdue University, West Lafayette, IN.
 Supervisor: Jon Harbor
- 2005-2007 Research Assistant, Rocky Mountain Biological Laboratory, Gothic, CO.
 Advisor: Howard Whiteman

- 2004-2005 Research Assistant, Department of Biological Sciences, Murray State University, Murray, KY.
Advisor: Howard Whiteman
- 2003 Research Technician, White Mountain Research and Bridgeport Forest Service, Bridgeport, CA.
- 2002 Research Technician, Coweeta Long-term Ecological Research, Otto, NC.

PUBLICATIONS

Davis, MM¹, TJ Smyser, SA Johnson, J Duchamp, JL Larkin, RK Swihart, **JM Doyle**. 2021. Reproductive success of captive-reared Allegheny woodrats (*Neotoma magister*) released into genetically depauperate populations. *Conservation Genetics*. doi: 10.1007/s10592-021-01372-z

Doyle, JM, JR Willoughby, DA Bell, PH Bloom, EA Bragin, NB Fernandez, TE Katzner, K Leonard², JA DeWoody. 2019. Elevated heterozygosity in adults relative to juveniles provides evidence of viability selection in eagles and falcons. *Journal of Heredity* 110(6):696-706.

Lackey, ACR, MP Moore, **JM Doyle**, N Gerlanc, A Hagan, M Geile, C Eden, HH Whiteman. 2019. Lifetime fitness, sex-specific life history, and the maintenance of a polyphenism. *The American Naturalist* 194(2):230-245.

Doyle, JM, DA Bell, PH Bloom, G Emmons, A Fesnock, TE Katzner, L LaPre, K Leonard², P SanMiguel, R Westerman, JA DeWoody. 2018. New insights into the phylogenetics and population structure of the prairie falcon (*Falco mexicanus*). *BMC Genomics* 19(1):233.

Schofield, M², J Duchamp, JL Larkin, TJ Smyser, **JM Doyle**. 2018. Mitochondrial genome of an Allegheny Woodrat (*Neotoma magister*). *Mitochondrial DNA Part B* 3(1):256-258.

Katzner, TE, D Driscoll, RE Jackman, PH Bloom, S Thomas, JL Cooper, S Living, T Grubb, **JM Doyle**, DA Bell, JE Didonato and JA DeWoody. 2018. Non-anthropogenic hydrocarbon-based oiling of Golden Eagles. *Journal of Raptor Research* 52(1):82-88.

DeWoody, JA, NB Fernandez³, A Bruniche-Olsen, JD Antonides, **JM Doyle**, P San Miguel, R Westerman, VV Efremov, CA Godard-Codding and JW Bickham. 2017. Characterization of the gray whale (*Eschrichtius robustus*) genome and a genotyping array based on single nucleotide polymorphisms in candidate genes. *The Biological Bulletin* 232(3):186-197. doi: 10.1086/693483

Willoughby, JR, JA Ivy, RC Lacy, **JM Doyle** and JA DeWoody. 2017. Inbreeding and selection shape genomic diversity in captive populations: implications for the conservation of endangered species. PLOS ONE 12(4): e0175996. doi: 10.1371/journal.pone.0175996

Bulut, Z, E Bragin, JA DeWoody, M Braham, TE Katzner and **JM Doyle**. 2016. Raptor space use and philopatry as assessed using non-invasive genetic methods: the white-tailed sea eagle (*Haliaeetus albicilla*) on the Asian steppe. Journal of Raptor Research 50(4):351-362.

Katzner, TE, DM Nelson, MA Braham, **JM Doyle**, NB Fernandez³, AE Duerr, PH Bloom, MC Fitzpatrick, TA Miller, RCE Culver, L Braswell and JA DeWoody. 2016. Golden Eagle fatalities and the continental-scale consequences of local wind-energy generation. Conservation Biology 31(2):406-415. doi: 10.1111/cobi.12836

Doyle, JM, TE Katzner, GW Roemer, JW Cain, B Millsap, C McIntyre, SA Sonsthagen, Z Bulut, N Fernandez³, M Wheeler, P Bloom and JA DeWoody. 2016. Genetic structure and viability selection in the golden eagle (*Aquila chrysaetos*), a vagile raptor with a holarctic distribution. Conservation Genetics 17(6):1307-1322. doi: 10.1007/s10592-016-0863-0

Whiteman, HH, **JM Doyle**, J Earl, C Aubee, R Brown and S Thomason. 2016. A PIT tagging technique for Ambystomatid salamanders. Herpetological Review 47:32-34.

Doyle, JM, CC Hacking³, JR Willoughby, M Sundaram and JA DeWoody. 2015. Mammalian genetic diversity as a function of habitat, body size, trophic level, and conservation status. Journal of Mammalogy 96(3): 564-572.

Doyle, JM, TE Katzner, PH Bloom, Y Ji, BK Wijayawardena, JA DeWoody. 2014. The genome sequence of a widespread apex predator, the golden eagle (*Aquila chrysaetos*). PLOS ONE 9:e95599. doi: 10.1371/journal.pone.0095599

Doyle, JM, G Siegmund³, JD Ruhl⁴, S-H Eo, MC Hale, NJ Marra, PM Waser, JA DeWoody. 2013. Microsatellite analyses across three diverse vertebrate transcriptomes (*Acipenser fulvescens*, *Ambystoma tigrinum*, and *Dipodomys spectabilis*). Genome 56:407-414.

Steinwald, MC⁴, BJ Swanson, **JM Doyle**, PM Waser. 2013. Female mobility and the mating system of the banner-tailed kangaroo rat (*Dipodomys spectabilis*). Journal of Mammalogy 94:1258-1265.

Eo, SH, **JM Doyle**, M Hale, NJ Marra, JD Ruhl⁴ and JA DeWoody. 2012. Comparative transcriptomics and gene expression in larval tiger salamander (*Ambystoma tigrinum*) gill and lung tissues as revealed by pyrosequencing. *Gene* 494:329-338.

Doyle, JM. 2011. Sperm depletion and a test of the phenotype-linked fertility hypothesis in gray tree frogs (*Hyla versicolor*). *Canadian Journal of Zoology* 89:853-858.

Eo, SH, **JM Doyle**, and JA DeWoody. 2010. Genetic diversity in birds is associated with body mass and habitat type. *Journal of Zoology* 283:220-226.

Doyle, JM, CR McCormick and JA DeWoody. 2010. The quantification of spermatozoa by real-time quantitative PCR, spectrophotometry, and spermatozoa cap size. *Molecular Ecology Resources* 11:101-106.

Doyle, JM, JR Nolan, and HH Whiteman. 2010. Effects of relative size on growth rate and time to metamorphosis in mole salamanders. *Journal of Herpetology* 44:601-609.

Doyle, JM and HH Whiteman. 2008. Effects of initial size variation and density on facultative paedomorphosis in *Ambystoma talpoideum*. *Oecologia* 156:87-94.

Doyle, JM, S Angelo and HH Whiteman. 2007. A technique for sampling clutch size of aquatic salamanders. *Herpetological Review* 38:41-42.

¹ Graduate researcher supervised at Towson University

² Undergraduate researcher supervised at Towson University

³ Undergraduate researcher supervised at Purdue University

⁴ K-12 educator

GRANTS RECEIVED

2021 New Jersey Dept. of Environmental Protection, "Woodrat SNP genotyping" (\$6,084)

2019 Towson University Jess & Mildred Fisher College of Science & Mathematics, Fisher Endowed Chair (\$64,000)

2019 Indiana Dept. of Natural Resources, "Population genetics of Indiana's Allegheny woodrats" (\$13,923)

2019 New Jersey Dept. of Environmental Protection, "Woodrat SNP genotyping" (\$17,495)

- 2018 XSEDE, "Locus-specific increases in heterozygosity in adult raptors provide evidence of viability selection" (valued at \$2,223.00)
- 2018 New Jersey Dept. of Environmental Protection, "Woodrat SNP genotyping" (\$9,909)
- 2017 New Jersey Dept. of Environmental Protection, "Woodrat SNP genotyping" (\$6,175)
- 2015 Purdue University, "Viability selection in raptors: Using pooled sequencing and F_{ST} outlier tests to pinpoint whether genome-wide or locus-specific heterozygosity confers a survival advantage" with JR Willoughby and JA DeWoody (\$14,690)
- 2015 New Mexico State University, "Golden eagle genotyping" with JA DeWoody (\$6,267)
- 2015 New Mexico State University, "Golden eagle genotyping" with JA DeWoody (\$17,733)
- 2014 California Bureau of Land Management, "Golden eagle demography: Genetic approaches to population biology in the face of renewable energy development in the California desert" with JA DeWoody and T Katzner (\$144,598)
- 2013 California Bureau of Land Management, "Golden eagle demography: Genetic approaches to population biology in the face of renewable energy development in the California desert" with JA DeWoody and T Katzner (\$84,223)
- 2012 California Bureau of Land Management, "Golden eagle demography: Genetic approaches to population biology in the face of renewable energy development in the California desert" with JA DeWoody and T Katzner (\$99,093)
- 2009 Purdue Lindsey Grant, "Trade-offs in sperm traits and their influence on paternity in *Ambystoma maculatum*" (\$1000)
- 2009 ASIH Gaige Award Grant, "Effects of male body size on sperm number and quality in *Ambystoma maculatum*" (\$500)

2008 Indiana Academy of Science Research Grant, "Effects of sperm competition intensity and cost on allocation in *Ambystoma maculatum*" (\$1018)

HONORS

2019 Fisher Endowed Chair, Towson University
2011 Evolution Conference Travel Award
2011 Biological Sciences Outstanding Teaching Assistant, Purdue University
2011 Graduate School Summer Fellowship, Purdue University
2010 Purdue Research Foundation Summer Fellowship
2010 Purdue Graduate Student Government Travel Grant
2010 Purdue Biology Dept. Yeunkyung Woo Achieve Excellence Travel Award
2009 Andrews Summer Fellowship, Purdue University
2008-2009 NSF GK-12 Fellowship, Purdue University
2005 1st Place, Sigma Xi Graduate Research Poster Competition, Murray State University
2004-2005 Dr. Morgan Emery Sisk Memorial Scholarship, Murray State University

SELECTED PRESENTATIONS AND SEMINARS

Doyle, JM, G Fowles, J Duchamp, JL Larkin, G Turner, B Westrich and T Smyser. A novel SNP assay reveals genetic rescue in New Jersey's remnant Allegheny woodrat population.

2020 Oral presentation, Northeast Association of Fish and Wildlife Agencies Annual Conference, Virtual symposium. Invited.

Willis, R¹, I Martinez, C Kean¹ and **JM Doyle**. Genetic diversity at Toll-like receptor genes in Allegheny woodrat (*Neotoma magister*) populations following translocations.

2019 Poster presentation, Towson University Department of Biological Sciences Research Symposium, Towson, MD, USA.

Doyle, JM, G Fowles, J Duchamp, JL Larkin, G Turner, B Westrich and T Smyser. Impact of captive-bred and wild Allegheny woodrat translocations in Indiana and New Jersey.

2019 Oral presentation, American Fisheries Society and The Wildlife Society Joint Annual Conference, Reno, NV, USA. Invited.

Beasley, R¹, C Kean¹ and **JM Doyle**. Implications of Toll-like receptor sequence diversity and differentiation on the management of Allegheny woodrat (*Neotoma magister*) populations.

2019 Poster presentation, Towson University Research and Creative Inquiry Forum, Towson, MD, USA.

Doyle, JM. Science is hard, don't be a jerk.

2018 Oral presentation, Tri-Beta Honor Society, Towson University, Towson, MD, USA. Invited.

Muller-Girard, M¹, TJ Smyser, J Larkin, J Duchamp, G Fowles and **JM Doyle.**

Comparing genetic variability of two threatened Allegheny Woodrat populations.

2018 Poster presentation, Towson University Research and Creative Inquiry Forum, Towson, MD, USA.

Doyle, JM. A genomics approach to conservation: population structure and viability selection in golden eagles and prairie falcons.

2017 Seminar, Department of Biological Sciences, Towson University, Towson, MD, USA. Invited.

Schofield, M¹, TJ Smyser, J Larkin, J Duchamp and **JM Doyle.** Complete mitochondrial genome of an Allegheny woodrat (*Neotoma magister*).

2017 Poster presentation, Towson University Department of Biological Sciences Research Symposium, Towson, MD, USA.

Leonard, KM¹, **JM Doyle**, NB Fernandez, JR Willoughby and JA DeWoody. Poolseq analysis of *Aquila heliaca* and *Falco mexicanus*.

2017 Poster presentation, Towson University Department of Biological Sciences Research Symposium, Towson, MD, USA.

Doyle, JM, J Willoughby, NB Fernandez¹, D Bell and JA DeWoody. Viability selection in raptors: Using pooled sequencing and F_{ST} outlier tests to pinpoint whether genome-wide or locus-specific heterozygosity confers a survival advantage.

2017 Oral presentation, Evolution Conference, Portland, OR, USA.

Doyle, JM, DA Bell, PH Bloom, TE Katzner and JA DeWoody. Can single nucleotide polymorphisms reveal population structure across divergent habitats in Prairie Falcons (*Falco mexicanus*)?

2016 Oral presentation, North American Ornithological Conference, Washington D.C., USA.

Doyle, JM, T Katzner, GW Roemer, B Millsap, C McIntyre, S Sonsthagen, M Wheeler, P Bloom, N Fernandez¹ and JA DeWoody. Inheritance, variability, and validation of single nucleotide polymorphisms for noninvasive monitoring of golden eagles (*Aquila chrysaetos*).

2015 Oral presentation, American Ornithologists' Meeting, Norman, OK, USA.

Doyle, JM. Natural history and conservation of golden eagles.

2015 Seminar, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN, USA. Invited.

- 2014 Seminar, Lilly Nature Center, West Lafayette, IN, USA. Invited.
- 2014 Seminar, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN, USA. Invited.
- 2013 Seminar, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN, USA. Invited.

Doyle, JM, T Katzner, P Bloom, Y Ji, B Wijayawardena and JA DeWoody. Genetic and genomic insights into the biology of the golden eagle.

- 2014 Oral presentation, Evolution Conference, Durham, NC, USA.

Doyle, JM, T Katzner, P Bloom, Y Ji, B Wijayawardena and JA DeWoody. Genetic and genomic insights into the biology of the golden eagle.

- 2014 Seminar, Department of Biological Sciences, Murray State University, Murray, KY, USA. Invited.
- 2014 Seminar, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN, USA. Invited.
- 2013 Seminar, Department of Biological Sciences, Purdue University, West Lafayette, IN, USA.

Doyle, JM, T Katzner, P Bloom, Y Ji, B Wijayawardena and JA DeWoody. The genome sequence of a widespread apex predator, the golden eagle (*Aquila chrysaetos*).

- 2013 Poster presentation, 11th Annual Ecological Genomics Symposium, Kansas City, MO, USA.

Doyle, JM, G Siegmund¹, JD Ruhl, S-H Eo, MC Hale, NJ Marra, PM Waser and JA DeWoody. Microsatellite analyses across transcriptomes of lake sturgeon, tiger salamanders, and kangaroo rats.

- 2011 Oral presentation, Evolution Conference, Norman, OK, USA.

Doyle, JM. Sperm depletion and the phenotype-linked fertility hypothesis in gray tree frogs (*Hyla versicolor*).

- 2010 Oral presentation, Ecological Society of America Conference, Pittsburgh, PA, USA.
- 2010 Seminar, Department of Biological Sciences, Purdue University, West Lafayette, IN, USA.

Doyle, JM and M Veit-Judd. Bringing Inquiry to China through the NSF/GK-12 Purdue International Fellowship Program.

- 2009 Department of Biological Sciences, Purdue University, West Lafayette, IN, USA.

Doyle, JM and HH Whiteman. Effects of initial size variation and density on facultative paedomorphism in *Ambystoma talpoideum*.

- 2006 Oral presentation, Ecological Society of America Conference, Knoxville, TN, USA.
- 2005 Poster presentation, Ecological Society of America Conference, Montreal, Canada.
- 2005 Oral presentation, Southeastern Ecology and Evolution Conference, University of Georgia, Athens, GA, USA.

¹ Undergraduate researcher supervised at Towson University

TEACHING EXPERIENCE

Instructor (Towson University, Towson, MD)

- 2018 Molecular Techniques in Ecology, Evolution and Conservation (BIOL 474 [formerly 483-003])
- 2018-2021 Seminar in Ecology, Evolution, Conservation and Behavior (BIOL 484)
- 2016-2020 Introduction to Ecology and Evolution (BIOL 202)
- 2017-2021 Molecular Ecology, Evolution and Conservation (BIOL 405)

Instructor (Purdue University, West Lafayette, IN)

- 2012 Introduction to Ecology and Evolution (BIOL 286)
- 2010 Supplementary Instruction for Diversity, Ecology and Behavior (BIOL 195)

Teaching Assistant (Purdue University, West Lafayette, IN)

- 2007-2011 Diversity, Ecology and Behavior (BIOL 121)
- 2011 Animal Behavior (BIOL 592)
- 2010 Boot Camp for Biology Lab (BIOL 135)
- 2008 Evolution (BIOL 580)
- 2007 Human Anatomy and Physiology (BIOL 342)
- 2006 Molecular Techniques (BIOL 232)

SERVICE

- 2021 Member, Department of Biological Sciences Curriculum Reform task force
- 2020-present Co-organizer, Allegheny woodrat working group
- 2020 Session organizer, "Allegheny woodrats in the northeastern United States: Status, trends, conservation and translocation", Northeast Association of Fish and Wildlife Agencies Annual Conference

2018 Member, Department of Biological Sciences Interventions committee
2017-present Member, Department of Biological Sciences Curriculum committee
2017-2018 Vice chair, Fisher College of Science and Mathematics College council
2017 Member, Department of Biological Sciences Operations Manager search committee
2005-2021 Reviewer for *Copeia*, *Journal of Herpetology*, *The Herpetological Journal*, *Western North American Naturalist*, *Molecular Ecology Resources*, *Journal of Raptor Research*, *Molecular Ecology*, *Conservation Genetics*, *Biological Journal of the Linnaean Society*, *The Condor*, *Genes*, *Ecography*, *PeerJ*, *Molecular Biology Reports*, *Heredity*
2013-2017 External grant reviewer for CRDF Global, Kentucky Science and Engineering Foundation