

Brian K. Trevelline

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PROFESSIONAL APPOINTMENTS

2017-present **Postdoctoral Researcher**, University of Pittsburgh
Supervisor: Dr. Kevin D. Kohl

EDUCATION

2013-2017 **Ph.D. in Biology**, Duquesne University
Advisors: Steven C. Latta & Brady A. Porter
Dissertation: "DNA metabarcoding reveals provisioning of pollution-sensitive aquatic insects, resource partitioning, and dietary shifts among breeding Neotropical migratory songbirds in a riparian habitat"

2011-2013 **M.S. in Environmental Science - Conservation Biology**, Duquesne University
Advisors: Steven C. Latta & Brady A. Porter
Thesis: "Evaluation of DNA barcoding as a technique for elucidating the diet of Louisiana Waterthrush nestlings"

2004-2008 **B.S. in Biology**, University of Pittsburgh
Semester at Sea Study Abroad Program (University of Virginia) - Fall 2007 Voyage

RESEARCH GRANTS

2019	Small Research Grant, British Ecological Society	\$6,486
2018	James Bond Grant, Smithsonian Institution	\$56,668
2018	Alexander Wetmore Research Award, American Ornithological Society	\$1,789
2015	Rea Research Award, Carnegie Museum of Natural History	\$2,000
2015	AOS Research Award, American Ornithological Society	\$2,398
2013	Three Rivers Quest Grant, West Virginia Water Research Institute	\$6,061

AWARDS & FELLOWSHIPS

2017	Award for Excellence in Graduate Research, Duquesne University	\$300
2016	Bayer Graduate Research Fellowship, Duquesne University	\$20,500
2015	Rea Research Fellowship, Carnegie Museum of Natural History	\$20,500
2012	Bayer Graduate Research Fellowship, Duquesne University	\$34,500

PUBLICATIONS ([GoogleScholar](#); †denotes undergraduate mentee)

- [8]. **Trevelline, B.K.**, K.J. McLeod, T. Langkilde, & K.D. Kohl (2019). Gestation alters the gut microbiota of an oviparous lizard. *FEMS Microbiology Ecology*, 95(7): fiz086. <https://doi.org/10.1093/femsec/fiz086>.
- [7]. **Trevelline, B.K.**, S.S. Fontaine, B.K. Hartup, & K.D. Kohl (2019). Conservation biology needs a microbial renaissance: a call for the consideration of host-associated microbiota in wildlife management practices. *Proceedings of the Royal Society B*, 286(1895): 20182448. <http://dx.doi.org/10.1098/rspb.2018.2448>.
- [6]. **Trevelline, B.K.**, K.J. McLeod, S.A. Knutie, T. Langkilde, & K.D. Kohl (2018). *In ovo* microbial communities: a potential mechanism for the initial acquisition of gut microbiota among oviparous vertebrates. *Biology Letters*, 14(7): 20180225. <http://dx.doi.org/10.1098/rsbl.2018.0225>.

- [5]. **Trevelline, B.K.**, T. Nuttle, N.L. Brouwer, †B.D. Hoenig, †Z.D. Steffensmeier, B.A. Porter, & S.C. Latta (2018). Stream acidification and reduced aquatic prey availability are associated with dietary shifts in an obligate riparian Neotropical migratory songbird. *PeerJ*, 6:e514. <https://doi.org/10.7717/peerj.5141>.
 • Profiled by Pittsburgh NPR station: <https://tinyurl.com/TrevellineWaterthrush>
- [4]. **Trevelline, B.K.**, T. Nuttle, †B.D. Hoenig, N.L. Brouwer, B.A. Porter, & S.C. Latta (2018). DNA metabarcoding of nestling feces reveals provisioning of aquatic prey and resource partitioning among Neotropical migratory songbirds in a riparian habitat. *Oecologia*, 187(1), 85-98. <https://doi.org/10.1007/s00442-018-4136-0>.
- [3]. **Trevelline, B.K.**, S.C. Latta, L.C. Marshall, T. Nuttle, & B.A. Porter (2016). Molecular analysis of nestling diet in a long-distance Neotropical migrant, the Louisiana Waterthrush (*Parkesia motacilla*). *The Auk*, 133(3), 415-428. <http://dx.doi.org/10.1642/AUK-15-222.1>.
- [2]. Sok, J.C., J.A. Lee, S. Dasari, S. Joyce, S.C. Contrucci, A.M. Egloff, **B.K. Trevelline**, R. Joshi, N. Kumari, J.R. Grandis, & S.M. Thomas (2013). Collagen type XI $\alpha 1$ facilitates head and neck squamous cell cancer growth and invasion. *British Journal of Cancer*, 109(12), 3049-3056. <http://dx.doi.org/10.1038/bjc.2013.624>.
- [1]. Egloff, A.M., X. Liu, A.L.G. Davis, **B.K. Trevelline**, M. Vuga, J.M. Siegfried, & J.R. Grandis (2012). Elevated gastrin-releasing peptide receptor mRNA expression in buccal mucosa: association with head and neck squamous cell carcinoma. *Head & Neck*, 35(2), 270-279. <http://dx.doi.org/10.1002/hed.22963>.

MANUSCRIPTS UNDER REVIEW

- [9]. **Trevelline, B.K.**, J. Sosa, B.K. Hartup, & K.D. Kohl. A bird's eye view of phyllosymbiosis: weak but significant signatures of phyllosymbiosis among all 15 species of cranes. *Proceedings of the Royal Society B*.
- [10]. **Trevelline, B.K.**, K.D. Kohl, & S.C. Latta. Stream acidification alters the gut microbiota of an obligate riparian songbird. *Science of the Total Environment*.
- [11]. Kohl, K. D., **B. K. Trevelline**, N. Cullen, G. Goodman, & D. Clayton. Microbial inventories of spleen tissue as a useful method for disease ecology and ecoimmunology. *The ISME Journal*.
- [12]. Rangel, J., B. Traver, M. Stoner, A. Hatter, **B.K. Trevelline**, C. Garza, T. Shepherd, T.D. Seeley, & J. Wenzel. Genetic diversity of wild and managed honey bees (*Apis mellifera*) in southwestern Pennsylvania, and prevalence of the microsporidian gut pathogens *Nosema ceranae* and *N. apis*. *Apidologie*.

INVITED TALKS

- 2019 Arkansas State University (Jonesboro, AR)
 2019 Symposium on molecular ecology, American Ornithological Society (Anchorage, AK)
 2019 Virginia Commonwealth University (Richmond, VA)
 2016 Symposium on avian diet analysis, North American Ornithological Conference (Washington, DC)
 2016 Carnegie Mellon University (Pittsburgh, PA)

CONTRIBUTED TALKS

- Trevelline, B.K.**, T. Nuttle, N.L. Brouwer, B.D. Hoenig, B.A. Porter, & S.C. Latta. (2018). DNA metabarcoding reveals dietary shifts in response to acidification in a stream-dependent Neotropical migrant. American Ornithology, Tucson, AZ.
- Trevelline, B.K.**, B.A. Porter, & S.C. Latta, and T. Nuttle. (2015). Anthropogenic impacts on water quality indirectly alter the diet of Louisiana Waterthrush nestlings via disruption of aquatic-terrestrial trophic subsidies. Ecological Society of America, Baltimore, MD.

Trevelline, B.K., B.A. Porter, & S.C. Latta, and T. Nuttle. (2015). Elucidating the diet of the riparian-obligate Louisiana Waterthrush in impacted aquatic systems. American Ornithology, Norman, OK.

Trevelline, B.K., B.A. Porter, & S.C. Latta. (2013). DNA Barcoding as a tool for the identification of prey in the feces of Louisiana Waterthrush. Wilson's Ornithological Society, Williamsburg, VA.

CONTRIBUTED POSTERS

Trevelline, B.K., K.J. McLeod, T. Langkilde, & K.D. Kohl. (2018). Gestation is associated with reduced gut microbial richness and diversity in an oviparous lizard. American Physiological Society Intersociety Meeting on Comparative Physiology, New Orleans, LA.

Trevelline, B.K., K.J. McLeod, T. Langkilde, & K.D. Kohl. (2018). Changes in the gut microbiota over the course of gestation in an oviparous lizard. Three Rivers Evolution Event, Pittsburgh, PA.

Trevelline, B.K., K.J. McLeod, S.A. Knutie, T. Langkilde, & K.D. Kohl. (2018) *In ovo* microbial communities: a potential mechanism for the initial acquisition of gut microbiota among oviparous vertebrates. Beneficial Microbes, Madison, WI.

Trevelline, B.K., N.L. Brouwer, B.D. Hoenig, S.C. Latta, T. Nuttle, and B.A. Porter. (2016) DNA metabarcoding reveals the dietary niches of a breeding riparian songbird community. Graduate Student Research Symposium, Duquesne University, Pittsburgh, PA.

- Received Award for Excellence in Graduate Research.

Trevelline, B.K., S.C. Latta, L.C. Marshall, T. Nuttle, and B.A. Porter. (2016). Molecular analysis of nestling diet in a long-distance Neotropical migrant, the Louisiana Waterthrush. North American Ornithological Conference (NAOC), Washington, DC.

Trevelline, B.K., B.A. Porter, and S.C. Latta. (2014). DNA barcoding as a non-invasive strategy for the identification of prey from the feces of Louisiana Waterthrush. American Ornithology, Estes Park, CO.

Trevelline, B.K. (2012). Student-based benthic macroinvertebrate surveys indicate a healthy aquatic ecosystem at Powdermill Nature Reserve. Keystone Coldwater Conference, State College, PA.

OTHER PUBLICATIONS

Trevelline, B.K. (2018). "Decoding DNA in droppings to diagnose dietary shifts in a riparian bird" *Flightpaths: Conservation & Research Updates from the National Aviary*.

Trevelline, B.K. (2017). DNA metabarcoding reveals provisioning of pollution-sensitive aquatic insects, resource partitioning, and dietary shifts among breeding Neotropical migratory songbirds in a riparian habitat. Doctoral Dissertation in Biological Sciences. Duquesne University.

Trevelline, B.K. (2013). Evaluation of DNA barcoding as a technique for elucidating the diet of Louisiana Waterthrush nestlings. M.S. Thesis in Conservation Biology. Duquesne University.

Trevelline, B.K. (2013). "Decoding fecal DNA". *Flightpaths: Conservation & Research Updates from the National Aviary*.

TEACHING

2019 Adjunct Lecturer, Evolution, University of Pittsburgh

2012-2017 Lab Instructor/Teaching Assistant, Ecology and Evolution, Duquesne University

2012-2014 Lab Instructor/ Teaching Assistant, Cell Biology and Genetics, Duquesne University

GUEST LECTURES

- 2019 Advanced Ornithological Techniques for Latin Americans, Powdermill Nature Reserve
2019 Conservation Biology, University of Pittsburgh
2015 Temperate Ecology for Latin Americans, Powdermill Nature Reserve

PROFESSIONAL SERVICE

- 2018-present **Member**, early-career professional sub-committee for American Ornithological Society
2018-present **Organizer**, *Colloquium for early-career professionals in ecology and evolution*.
Department of Biological Sciences, University of Pittsburgh.
2019 **Organizer**, *Navigating Ornithology as an Early Career Professional: Staying Engaged, Employed, and Energized*. American Ornithology, Anchorage, AK.
2018 **Organizer**, *Animal intestinal microbiomes: community diversity and services provided to the host*. American Physiological Society Intersociety Meeting on Comparative Physiology, New Orleans, LA.
2011-2017 **Graduate Mentor**, Duquesne University Ecology Club

PEER-REVIEW ([Publons](#))

Conservation Science and Practice; Ecology and Evolution; FEMS Microbiology Ecology; Journal of Animal Ecology; mBio; Microbial Ecology; Molecular Ecology; PeerJ; PLOS One; Proceedings of the Royal Society B; Scientific Reports; The Auk: Ornithological Advances; The Condor: Ornithological Applications; Wilson Journal of Ornithology

OUTREACH

- 2019-present ***"It takes guts to eat plants"*** – An outreach program that communicates our work on the digestive physiology and gut microbiome of herbivores by engaging the public at local farmer's markets.
2018-present ***"Biology takes guts"*** – A personal outreach program that communicates the importance of the gut microbiome and careers in biology to high-school students.

PROFESSIONAL SOCIETIES

American Ornithological Society (formerly American Ornithologists' Union); Birds Caribbean; British Ecological Society; Ecological Society of America; Society for Integrative and Comparative Biology (SICB); Wilson Ornithological Society

MEDIA & PRESS

- "Pollution is changing the diet of songbirds" (2018). *Allegheny Front*. WESA Pittsburgh.
<https://www.alleghenyfront.org/pollution-is-changing-the-diet-of-songbirds/>
"Local Researcher Honored for Waterthrush Study" (2016). *The Peregrine: Three Rivers Birding Club Newsletter*. Vol. 15, No. 2.