

Hans Theodore Bilger | PhD

Ecology, Evolution, and Behavior Graduate Program
Department of Integrative Biology
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Education:

- 2023 Ph.D. The University of Texas at Austin, Austin, TX
Ecology, Evolution, and Behavior
Advised by Dr. Julia Clarke and Dr. Michael Ryan
Dissertation focus: evolution, vocal communication, morphology, bioacoustics, biomechanics
- 2016 B.S. Yale University, New Haven, CT
Ecology and Evolutionary Biology | GPA: 3.74
Advised by Dr. Richard Prum
Thesis topic: Higher-order musical temporal structure in bird song; avian vocal communication; sexual selection

Research Grants and Honors:

- 2022 University of Texas at Austin, Ecology and Evolutionary Biology Research Grant. Form and function in the developing anuran larynx (\$2,500)
- 2020 University of Texas at Austin, Ecology and Evolutionary Biology Research Grant. Form and function in the developing anuran larynx (\$2,500)
- 2019 Berlin Museum für Naturkunde, Innovation Fund Grant (€4,615)
- 2019 The University of Texas at Austin, Graduate Dean's Prestigious Fellowship Supplement (\$3190)
- 2019 The University of Texas at Austin, Lundelius Scholarship (\$876)
- 2018 The University of Texas at Austin, EEB Enhanced Support Fellowship (\$45,448)
- 2018 German Academic Exchange Service (DAAD), Research Grant for Doctoral Candidates and Young Academics and Scientists (€11,985)
- 2018 National Science Foundation, Graduate Research Fellowship (\$102,000 stipend + \$36,000 cost of education allowance)
- 2016 Yale University, Susan J. Smith Arts Prize, for outstanding contribution in the arts by a senior in Branford College
- 2015 Yale University, Franke Program in Science and the Humanities, Undergraduate Research Award
- 2014 Yale University, Summer Environmental Fellowship
- 2014 Yale University, Donald Annis German Prize, for the best record as a freshman and sophomore in courses in English and German
- 2012-2016 Yale University, Frederic W. and Elsa S. Naumburg Scholarship

Technical Publications and Manuscripts in Press:

3. **Bilger, HT**, Vertosick, E, Vickers, A, Kaczmarek, K, & Prum, RO. (2021). Higher-Order Musical Temporal Structure in Bird Song. *Frontiers in psychology*, 12, 834.
2. **Bilger, H.**, Hood, S., Bader, K., & Clarke, J. A. (2020). Guidelines for removal, preservation, and CT imaging of the syrinx, the avian vocal organ. *The Wilson Journal of Ornithology*, 132(3), 628-638.
1. Locatelli, ER, McMahon, S, & **Bilger, H.** (2017). Biofilms Mediate the Preservation of Leaf Adpression Fossils by Clays. *Palaios*, 32(11), 708-724. **Winner: 2017 Outstanding Paper Award in Palaios**

Manuscripts in Preparation and in Review:

1. **Bilger, HT**, Ryan, MJ, Clarke, JA. Human speech has a smaller acoustic range than non-linguistic vocalizations. Submitted.
2. **Bilger, HT**, Ryan, MJ, Clarke, JA, Knörnschild, M. Vocal allometry in neotropical bats. In preparation.
3. **Bilger, HT**, Clarke, JA, Ryan, MJ. Form and function in the developing túngara frog larynx. In preparation.
4. Rodriguez-Saltos, CA, **Bilger, H.T.**, Eliason, CM, Clarke, JA. Developing aVOICE: An interactive tool for comparative bioacoustics. In preparation.

Abstracts:

- 2019 A Comparative Context for Zebra Finch Vocal Repertoire Ontogeny. International Congress for Vertebrate Morphology, Prague, Czech Republic

Seminars and Invited Conference Presentations:

- 2022 Vocal allometry in neotropical bats. Meeting of the German Bat Researchers, Universität Greifswald. Greifswald, Germany.
- 2020 Acoustic Space Use in Human Vocalization. Brain, Behavior, and Evolution Seminar, University of Texas at Austin. Austin, TX, USA.
- 2019 Higher Order Musical Sequencing in Birdsong. Center for Brain, Behavior, and Evolution spring symposium: “Sound origins: Vocalizations, mechanisms & evolution”, University of Texas at Austin. Austin, TX, USA.
- 2017 Vocal Communication in Birds. Guest lecture for Signature Course UGS 303: Language & Communication Across Species, University of Texas at Austin. Austin, TX, USA.
- 2016 Human Perception of Aesthetic Syntax in Birdsong. Ecology and Evolutionary Biology Poster Session, Yale University. New Haven, CT, USA.
- 2016 Human Perception of Aesthetic Structure in Birdsong. Branford Senior Mellon Forum, Yale University. New Haven, CT, USA.
- 2016 Human Perception of Aesthetic Structure in Birdsong. Poly Prep Country Day School. Brooklyn, NY, USA.

Education and Outreach:

- Spring 2020 Teaching Assistant, *Evolution*, University of Texas at Austin. Led four discussion sections and conducted grading/office hours for a university lecture course taught by Dr. Ulrich Mueller and Dr. Mikhail Matz.
- 2019 “*Birds and bats: similar moves, different tools*”. Public, all-ages presentation for the Berlin Museum für Naturkunde’s “Lange Nacht der Wissenschaft” [“Long Night of Science”].

Research Experience:

- Mar. 2020 – present Visiting scientist, Museum für Naturkunde Berlin. Evolutionary morphology research on the vocal systems of neotropical bats in the working group of PD Dr. Mirjam Knörnschild.
- Feb. 2017 - Sep. 2018 Research Associate, University of Texas at Austin. Morphological research in the lab of Julia Clarke related to the evolution of avian vocalization; methodological research related to diffusible iodine-based contrast-enhanced computed tomography (diceCT) imaging.
- Jul. 2018 - Aug. 2018 Contractor, Macmillan Learning. Produced sonograms of bird vocalizations for the textbook *Ornithology*, 4th Edition by Frank B. Gill. Worked in collaboration with Dr. Richard Prum.
- Jul. 2016 - Sep. 2016 Research Assistant, Yale University. Bioacoustic/avian vocal communication research in the lab of Richard Prum related to sexual selection and aesthetic co-evolution in birds.
- Aug. 2014 Consultant, German Society for International Cooperation (GIZ). Copyedited the English version of the Republic of Georgia's 2nd National Biodiversity Strategy and Action Plan, 2013-2020
- May - Jul. 2013 Summer Intern, Centre for Biodiversity Conservation and Research (NACRES), Republic of Georgia. Field and office research related to large carnivore preservation, water quality assessment, pasture management, and other topics.

Technical Experience:

- 2009 - present Freelance Musician/Audio Engineer/Music Teacher. Composer, multi-instrumentalist, and singer with extensive experience in jazz, folk, new/experimental music, and dance/film scoring. Work featured in/by Rolling Stone, FluxFM (Germany), etc. Currently signed to Good Child Music and working as the composer-in-residence for Brooklyn-based dance company Cora Dance.
- Jul. - Sep. 2016 Audio Engineering Intern, Panoply/The Slate Group. Helped to construct and maintain a suite of new podcast recording studios; provided engineering, mixing, editorial, and research assistance for shows including The Gist, Politically Re-Active, Revisionist History, The Grift, The Ezra Klein Show, etc.