

CURRICULUM VITAE

Monica L. Carlson
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EDUCATION

PhD candidate, Ecology and Evolutionary Biology, Princeton University, 2017-present
Master of Arts in Teaching, Secondary Science, University of North Carolina at Chapel Hill, 2006
Bachelor of Science, *cum laude*, Biology, Duke University, 2001

AWARDS, GRANTS, & HONORS

Student Travel Award, American Ornithological Society Meeting, \$1130, 2022
Nice Award, American Ornithological Society, \$2500, 2019
Frank M. Chapman Research Grant, American Museum of Natural History, \$1800, 2019
Student Travel Award, International Society for Behavioral Ecology, \$500, 2018
William J. Griffith University Service Award, 2001

PUBLICATIONS & PRESENTATIONS

Carlson, M.L., Stoddard, M.C. Evolution of plumage patterns in pattern morphospace: a phylogenetic analysis of melanerpine woodpeckers. *The American Naturalist*. Submitted.

Tobias, J. A., C. Sheard, A. L. Pigot, A. J. M. Devenish, J. Yang, F. Sayol, M. H. C. Neate-Clegg, et al. 2022. AVONET: morphological, ecological and geographical data for all birds. *Ecology Letters* 25:581–597.

Carlson, M.L., Proudfoot, G.A., Gentile, K., Dispoto, J., Weckstein, J.D. (2018). Haemosporidian prevalence in Northern saw-whet owls (*Aegolius acadicus*) is predicted by host age and average annual temperature at breeding grounds. *Journal of avian biology*. Advance online publication. doi: [10.1111/jav.01817]

Carlson, M.L. (2018, September). Ecology and evolution of plumage patterns in *Melanerpes* woodpeckers. Talk presented at the Evolution in Philadelphia Conference (EPiC), Philadelphia, PA.

Carlson, M.L. (2018, August). Ecology and evolution of plumage patterns in *Melanerpes* woodpeckers. Talk presented at the meeting of the International Society for Behavioral Ecology (ISBE), Minneapolis, MN.

Drucker, C. B., Carlson, M. L., Toda, K., DeWind, N. K., Platt, M. L. (2015). Non-invasive primate head restraint using thermoplastic masks. *Journal of neuroscience methods*, 253, 90-100.

EXPERIENCE

RESEARCH

Graduate Student, Department of Ecology and Evolutionary Biology, Princeton University, 2017-present.
Developed a method for quantifying plumage patterns from digital photographs of museum specimens using two-dimensional fast Fourier Transformation; conducted phylogenetic comparative analyses exploring plumage pattern evolution in the melanerpine (*Melanerpes-Sphyrapicus*) woodpeckers; combined observational data on local woodpecker tree foraging with museum specimen images to test hypotheses about crypsis as a selective pressure in the evolution of

woodpecker plumage patterns; conducted behavioral experiments at bird feeding stations to test hypotheses about mimicry as a driver of plumage similarity in downy/hairy woodpeckers.

Volunteer Research Assistant, Ornithology Department, Academy of Natural Sciences, 2016-2017. Conducted molecular screening of Northern saw-whet owl (*Aegolius acadicus*) blood samples for haemosporidian parasites; used generalized linear models to determine demographic and climatic predictors of parasite prevalence (Carlson et al. 2018); recorded data and assisted with blood collection at the Rushton Preserve bird banding station.

Senior Research Analyst and Lab Manager, Neuroscience Department, Duke University/University of Pennsylvania, 2007-2016. Conducted behavioral experiments investigating numerical cognition research on non-human primates; developed and implemented new techniques to improve animal welfare (Drucker et al. 2015); planned and scheduled work for the research team to ensure scientific progress.

Research Assistant, Institute of Biology, Free University Berlin, 2006-2007. Conducted behavioral experiments investigating song preference in common nightingales (*Luscinia megarhynchos*); designed and constructed testing booths and operant-conditioning paradigms; collected behavioral data during experiments.

Research Assistant, Biology Department, Duke University, 2003-2005. Assisted with experiments investigating the effects of early developmental stress on song production in male song sparrows (*Melospiza melodia*); conducted spectral analysis of sonograms of bird vocalizations.

CURATORIAL

Volunteer Research Assistant, Ornithology Department, Academy of Natural Sciences of Drexel University, 2016-2017. Entered museum specimen data in the ornithological collection database; accessioned photographs for the Academy's digital bird photography database (VIREO);

CONSERVATION

Volunteer, Willistown Conservation Trust, 2016-2017. Conducted seasonal bird counts to assess land as important bird conservation areas.

TEACHING, MENTORING, AND OUTREACH

Undergraduate Mentor, Department of Ecology and Evolutionary Biology, Princeton University, 2018-present. Mentees: Joseph Kawalec, '21; Madison Hamilton, '22

Teaching Assistant, Behavioral Ecology, Department of Ecology and Evolutionary Biology, Princeton University, 2021

Volunteer Instructor, Bring-Your-Kids-To-Work Day, Princeton University, 2018, 2019

Teaching Assistant, Sensory Ecology, Department of Ecology and Evolutionary Biology, Princeton University, 2017, 2018, 2020

Volunteer Instructor, STEM Career Day, Academic of Natural Sciences of Drexel University, 2017

Volunteer Instructor, Member's Night, Academic of Natural Sciences of Drexel University, 2016

Student Teacher, Secondary Science, East Chapel Hill High School, 2005-2006

Outreach Assistant, Duke Biology Department, Duke University, 2005-2006

Teaching Assistant, Introductory Biology, Biology Department, Duke University, 2003-2005

Secondary Science Teacher, 9th-12th grade, Teach for America, Scotlandville Magnet High School, Baton Rouge, Louisiana, 2001-2003

Volunteer Mentor and Tutor, Student Action with Farmworkers, Duke University, 2000-2001

ACADEMIC & PROFESSIONAL SERVICE

Organizer, Integrated Behavioral Research Group, Princeton University, 2018

Organizer, Graduate Student Departmental Retreat, Princeton University, 2018

Organizer, Rutgers-Princeton-Penn-Columbia-Yale Conference, 2018