

DR. JOHANNA A. HARVEY

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PROFESSIONAL APPOINTMENTS

Gerstner Postdoctoral Research Fellow, September 2019- Present. American Museum of Natural History. “Chasing down climate change hitchhikers: tracing avian malaria with transcriptomics”
Postdoctoral Research Associate, January 2018- June 2019. University of Connecticut, Department of Ecology and Evolutionary Biology. “Effects of urbanization and an invasive ectoparasite on Darwin’s finches”

EDUCATION

Ph.D., Department of Wildlife and Fisheries Sciences, Texas A&M University, 2018.

Dissertation Title: Avian Haemosporidians: detection, host, and climate association across contrasting regions of Africa. Committee chair: Dr. Gary Voelker

B.S., Department of Wildlife and Fisheries, Texas A&M University, 2010.

RESEARCH INTERESTS

Parasite diversification and host immune response evolution and across habitats, scales, and in response to climate change.

PEER-REVIEWED PUBLICATION

10. Harvey, J.A, Chernicky, K., Simons, S. Verrett, T.B, Chaves, J.A., and Knutie, S.A. Urban living can increase the reproductive success of Darwin’s finches. Submitted: *Animal Conservation*
9. Hibbitts, T.J., Ryberg, W.A., **Harvey, J.A.**, Voelker, G., Lawing, M.A., Adams, C.S., Neuhaerth, D.B., Dittmer, D.E., Duran, C.M., Wolaver, B.D., Pierre, J.P., Labay, B.J., Laduc, T.J. Phylogenetic structure of *Holbrookia lacerata* (Cope 1880) (Squamata: Phrynosomatidae): one species or two? *Zootaxa* 4619: 139-154. (doi.org/10.11646/zootaxa.4619.1.6)
8. Harvey, J.A. and Voelker, G. Host associations and climate influence avian haemosporidian distributions in Benin. *International Journal of Parasitology* 49: 27-36.
7. Huntley, J.W., **Harvey, J.A.**, Pavia, M., Boano, G., and Voelker, G. 2018. The systematics and biogeography of the Bearded Greenbuls (Aves: Criniger) reveals the impact of the Plio-Pleistocene forest fragmentation of Afro-tropical avian diversity. *Zoological Journal of the Linnean Society*, 183: 672-686.
6. Harvey, J.A. and Voelker, G. 2017. Avian Haemosporidian Detection Across Source Materials: Prevalence and Genetic Diversity. *Parasitology Research* 116(12), 3361-3371.
5. Pellegrino, I., Cucco, M., **Harvey, J.A.**, Liveratore, F., Pavia, M., Voelker, G., Boano, G. 2017. So similar and yet so different: taxonomic status of Pallid swift *Apus pallidus* and Common swift *Apus apus*. *Bird Study* 3: 344-352.
4. Outlaw, D.C., **Harvey, J.A.**, Drovetski, S. and Voelker, G. 2016. Diversity and distribution of avian haemosporidians in sub-saharan Africa: an inter-regional biogeographic overview. *Parasitology* 144 (4): 394–402.
3. Ryberg, W.A., **Harvey, J.A.**, Blick, A., Hibbitts, T.J., and Voelker, G. 2015. Genetic structure is inconsistent with subspecies designations in the Western Massasagua (*Sistrurus tergeminus*). *Journal of Fish and Wildlife Management* 6: 350-359.
2. Drovetski, S., Aghayan, S.A., Mata, V.A, Lopes, R.J., **Harvey, J.A.**, and Voelker, G. 2014. Does the niche breadth or trade-off hypothesis explain the abundance-occupancy relationship in avian Haemosporidia? *Molecular Ecology* 23: 3322–3329.
1. Booth-Binczik, S.D., Bradley, R.D., Thompson, C.W., Bender, L.C., Huntley, J.W., **Harvey, J.A.**, Laack, L.L., and Mays, J.L. 2013. Ocelot Food Habits and Potential for Competition with Bobcats in Southern Texas. *The Southwestern Naturalist* 58: 403-410.

In preparation

Harvey, J.A., Huntley, J.W., and Voelker, G. Avian Haemosporidian parasite diversity of the Congo forests and implications for conservation.

Harvey, J.A., Verrett, T.B.*, Boano, G., Pavia, M. and Voelker, G. Predictors of distribution in Italy's avian malaria parasites.

TECHNICAL REPORTS

Ryberg, W.A., Blick, A., **Harvey, J.A.**, Hibbitts, T.J., and Voelker, G. 2013. Genetic determination of the Desert Massasauga (*Sistrurus catenatus catenatus*) distribution in Texas. Submitted to Texas Parks and Wildlife Department.
https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/grants-research/media/2013-massasauga.pdf

FELLOWSHIPS, GRANTS, AWARDS

2019 Gerstner Scholar Postdoctoral Research Fellowship, American Museum of Natural History, Research award, \$135,530
2018 American Ornithological Society Research Award, \$2,492
2017 Tom Slick Professional Development Grant, Texas A&M University, \$1,000
2017-2016 Tom Slick Graduate Research Fellowship, Texas A&M University, \$32,298
2015 American Ornithologists' Union Research Award, \$2,481
2015 Marc Dresden Student Travel Grant, American Society of Parasitologists, \$300
2015 Frank M. Chapman Research Grant, American Museum of Natural History, \$900
2015 Aggies Commit Research Fellowship, Texas A&M University, \$1,000
2015 Graduate Students of WFSC Seed Grant, Texas A&M University, \$50
2012 MalariaRCN Travel Grant & Scholarship \$1000 (travel & lodging) \$1,000
2013-2011 Graduate Diversity Fellowship, Texas A&M University, \$103,707 (3 years)
2010 Undergraduate Diversity Fellowship: Evolution 2010, Portland, Oregon (travel & lodging) \$1000
2010 Applied Biodiversity Science NSF-IGERT Program Amazon Field School scholarship (travel & lodging) \$2500

PROFESSIONAL EXPERIENCE

2011- 5/2017 **Research assistant and lab manager**, Voelker Lab. In addition to conducting my own research I am responsible for ordering products dealing with vendors, along with daily lab management. Overseeing graduate/undergraduates in the lab.
Fall 2015 **Curatorial assistant in the bird and mammal divisions**, Biodiversity and Research Teaching Collection, Texas A&M University. Process avian loan requests and returns. Assist in database management, updating data base for georeferencing of all specimen data points.
2009-2011 **Student researcher** for Drs. Gary Voelker and Ben Marks. Project examining intraspecific variation of the Red-throated Alethe (*Alethe poliophrys*).
2009- 2011 **Research assistant** to Dr. Lee Fitzgerald, Texas A&M University. Worked with arthropod sampling to determine if the increasing fragmentation in the study area has an effect on insect diversity and distribution.
2009 **Assistant project manager** for Dr. Kirk Winemiller. Recreational use attainability analysis of streams and rivers of the Texas Brazos River Basin.
2009 **Undergraduate researcher**. Ocelot/Bobcat Scat Analysis; Examination of Ocelot/Bobcat scat and identification of avian prey species.

PROFESSIONAL PRESENTATIONS (* undergraduate students mentored)

- 2019 Lepore, R. *, Knutie, S., Grames, E., **Harvey, J.A.**, and Davis, M. Effect of Fragmentation Size on Deer Tick (*Ixodes scapularis*) Abundance. 7th Annual Fall Frontiers Undergraduate Research Poster Exhibition, University of Connecticut, Storrs, CT (Poster presentation).
- 2019 Harvey, J.A., Verrett, T.B. *, Boano, G., Pavia, M. and Voelker, G. Climate and host associations of avian malaria parasites. Evolution 2019 joint meeting of SSE/ASN/SSB, Providence, RI. (Oral presentation).
- 2017 Harvey, J.A. and Voelker, G., Avian haemosporidian diversification across contrasting regions of Africa. Evolution 2017 joint meeting of SSE/ASN/SSB, Portland, Oregon. (Oral presentation).
- 2017 Verrett, T.B. *, **Harvey, J.A.**, and Voelker, G., Assessment of prevalence and phylogenetic diversity in avian haemosporidians from Italy. Evolution 2017 joint meeting of SSE/ASN/SSB, Portland, Oregon. (Poster presentation).
- 2016 Harvey, J.A. and Voelker, G. Avian Malaria Detection: a story of blood, muscle and birds. North American Ornithological Conference, Washington, D.C. (Oral presentation).
- 2016 Ryberg, W.A., **Harvey, J.A.**, Blick, A. *, Hibbitts, T.J., and Voelker, G., Genetic structure is inconsistent with subspecies designations in the Western Massasauga (*Sistrurus tergeminus*) Texas Chapter of the Wildlife Society, San Antonio, Texas (Oral presentation).
- 2015 Ryberg, W.A., **Harvey, J.A.**, Blick, A. *, Hibbitts, T.J., and Voelker, G. Genetic structure is inconsistent with subspecies designations in the Western Massasauga (*Sistrurus tergeminus*) Texas Herpetological Society, San Marcos, Texas (Oral presentation).
- 2015 Harvey, J.A. Avian Malaria across Sub-Saharan Africa: from bioregions to habitats to hosts. Rio Brazos Audubon Society. Brazos Valley Museum of Natural History. Bryan, Texas. (Invited Lecture)
- 2015 Harvey, J.A., and Voelker, G. Avian Malaria Parasite Diversification in Benin: from hosts, to bioregions and habitats. American Ornithologist's Union & Cooper Ornithological Society, Norman, Oklahoma (Oral presentation).
- 2015 Harvey, J.A., and Voelker, G. Avian Malaria Parasite Diversification in Benin: from hosts to bioregions and habitats. American Society of Parasitologists, Omaha, Nebraska (Oral presentation).
- 2015 Hibbitts, T.J., Garrett, T., Adams, C., **Harvey, J.A.**, and Voelker, G. Skinks of the South Texas Sand Sheet: do we have a new species? American Society of Ichthyologists and Herpetologists, Reno, Nevada (Oral presentation).
- 2015 Harvey, J.A. Avian Malaria Diversification in West Africa: from hosts to habitats. Ecological Integration Symposium, Texas A&M University, College Station, Texas (Oral presentation).
- 2015 Pope, A. *, **Harvey, J.A.**, Huntley, J.W., and Voelker, G. Evolutionary Relationships of Southern African Pipit Species. Ecological Integration Symposium, Texas A&M University, College Station, Texas (1st place undergraduate poster).
- 2014 Aghayan, S.A., Atoyian, H.A., **Harvey, J.A.**, Voelker, G., and Drovetski, S.V., Which Avian Haemosporidia are better colonizers? Proceedings of the conference: Biological diversity and conservation problems of the fauna of the Caucasus, p. 25. Yerevan, Republic of Armenia (Oral presentation).
- 2014 Blick, A. *, Ryberg, W., **Harvey, J.A.**, Hibbitts, T., and Voelker, G. Interspecific Genetic Determination of the Massasauga Distribution in Texas. Ecological Integration Symposium & Student Research Week, Texas A&M University, College Station, Texas (1st place, Undergraduate poster).
- 2013 Harvey, J.A. Malaria Parasite Diversification and Host-switching across Biomes in Birds and Reptiles of Africa. Wildlife and Fisheries Sciences Graduate Seminar, Texas A&M University, College Station, Texas (Oral presentation).

- 2013 Blick, A.*, Ryberg, W., **Harvey, J.A.**, Hibbitts, T. G., and Voelker, G. Interspecific Genetic Determination of the Massasauga Distribution in Texas. Herpetological Society Fall Symposium. Midwestern State University, Wichita Falls, Texas. (Poster).
- 2012 Harvey, J.A. Malaria in Africa: Diversification Across the Continent and Biomes. MalariaRCN Workshop, Shepherdstown, West Virginia. (Oral presentation).
- 2011 Bates, J. M., Engel, J., **Harvey, J.**, Marks, B., Voelker, G., Kahindo, C. and Bowie, R. Contrasting patterns of genetic differentiation in Albertine Rift birds and the potential causes. American Ornithologists' Union meeting, Jacksonville, Florida. (Oral presentation).
- 2010 Harvey, J.A.*, Marks, B.D., Bates, J.M., and Voelker, G. Diversification of *Alethe poliophrys*, an endemic bird in the Albertine Rift. Evolution joint meeting of SSE/ASN/SSB, Portland, Oregon. (Undergraduate poster presentation)
- 2010 Harvey, J.A. and Leavitt, D.J. Subterranean Termite Presence in a Fragmented Landscape. Student Research Week /Ecological Integration Symposium, Texas A&M University, College Station, Texas (1st place, Undergraduate Poster).

WORKSHOPS ATTENDED

- 2017 UConn Computation Biology Core RNA-Seq Bioinformatic Workshop, led by Jill Wegrzyn
- 2016 Nantucket Phylogeny developer bootcamp, led by Liam Revell, Klaus Schliep and April Wright, University of Massachusetts
- 2016 Network Analysis using R, North American Ornithological Conference, Washington, DC
- 2015 BioGeoBEARS OSOS Workshop taught by Nick Matzke, EEB Program, Texas A&M University, College Station, Texas.
- 2015 Software Carpentry Workshop: Unix shell, Bash, version control with Git, statistical analysis in R. University of Texas, Arlington.
- 2014 Open Source Open Science Workshop: Introduction to OSOS and R, R in Phylogenetics, NGS data processing. EEB Program, Texas A&M University, College Station, Texas.
- 2014 Open Source Open Science Workshop: Introduction to R, Publication quality graphics, Open source GIS. EEB Program, Texas A&M University, College Station, Texas.
- 2014 Bodega Applied Phylo Workshop, University of California, Davis. Bodega Bay, California.
- 2012 MalariaRCN Workshop, Shepherdstown, West Virginia. Training in the biology of malaria (Haemosporidia) parasites of vertebrate wildlife populations

TEACHING EXPERIENCE

Invited lectures

- “Avian Disease Ecology: effects on fitness”, Ornithology WFSC 402, Texas A&M, Spring 2016
- “Avian Disease Ecology”, Ornithology WFSC 402, Texas A&M, Spring 2015
- “Avian Physiology, Blood and Fitness Effects of Malaria”, Ornithology WFSC 402, Texas A&M, Spring 2014

Courses

Graduate teaching assistant, Big Bend Field Course, Ecology and Evolutionary Biology Program, Texas A&M, Summer 2015, 2014. Assist in teaching students about natural history of the region, teaching plant and animal identification. Plan meals, coordinate hikes and logistics.

Lab Instructor, Ornithology WFSC402, Texas A&M. Spring 2013, 2014, 2015, 2016.

Created all lab materials, lectures and lab exams. Course includes field techniques: bird identification, point count and line transect sampling and covered worldwide avian taxonomy and evolution.

PROFESSIONAL AND FIELD EXPERIENCE

- 2018 Supervised and managed field season including training and overseeing three post bachelor

- field technicians. Research examining response to parasitism (*Philornis downsi*) in ground finches and common cactus finches on San Cristobal, Galapagos across urban and rural field sites. Data collection including fecal sampling, blood sampling for RNA, plasma, glucose and hemoglobin and measurements for adult birds and additionally growth and fledging success for hatchling birds.
- 2015 Conducted field sampling for avian malaria across the Piedmont Region, Italy in a diverse sampling of Passeriform birds. Collaborated with Dr. Marco Pavia, collection manager at the Dipartimento di Scienze della Terra of Torino University, Italy
- 2011 Field Technician. Collected data for mammals, reptiles and amphibians for a community analysis on fragmentation effects in shinnery oak sand dune hill habitat. Dr. Lee Fitzgerald. Maljamar, New Mexico. Texas A&M University
- 2010 Amazon Summer Field School, Tambopata National Reserve & Bahuaja Sonene N.P., Dept. of Madre de Dios, Peru. Applied Biodiversity Science NSF-IGERT Program. Texas A&M

STUDENT MENTORING

University of Connecticut Undergraduate Students

Robert Lepore, *Summer 2019-present*

Alyssa Adesso, *Summer 2019- present*

Texas A&M University Masters Student

Cragen King, 2016 - 2017

Texas A&M University Undergraduate Students

Taylor Verrett, also field technician at UConn- Galapagos. Currently MS student at Western Kentucky State University, *2015- Present*

Shelby Simons, also field technician at UConn- Galapagos. Currently MS student at University of Georgia, *2015-2019*

David Rumsford, 2015

Connor Fleming, 2015

Alyssa Pope, 2014-2015

Emily Bach, 2014.

Anna Blick, currently a DVM student at Texas A&M Veterinary School, 2013-2014

Natalie Izral, 2012-2013

Jesseca Buchorn, 2013

PROFESSIONAL SOCIETIES

American Society of Parasitologists (2014-2018)

American Ornithological Society (2015-2018)

Society for the Study of Evolution (2011-2018)

MANUSCRIPT REVIEWER

American Naturalist, Biological Conservation, Ecology and Evolution, Ecology Letters, IBIS, Oecologia