

Michael Tobler

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ACADEMIC EDUCATION

- 2008 Dr. Sci. Nat., University of Zürich, Institute of Zoology
Advisors: Ingo Schlupp and Heinz-Ulrich Reyer
Dissertation: The evolutionary ecology of *Poecilia mexicana* in the Cueva del Azufre system: effects of abiotic and biotic environmental conditions
- 2004 Diploma, Swiss Federal Institute of Technology Zürich (ETH), Department of Biology
Advisors: Ingo Schlupp and Paul Schmid-Hempel
Thesis: Sex and parasites in a gynogenetic mating complex
- 2000-2004 Studies of Biological Sciences at the Swiss Federal Institute of Technology Zürich (ETH) and the University of Zürich with focus on behavior, ecology, and evolution.

PROFESSIONAL APPOINTMENTS

- 2017-present Associate Professor, Division of Biology, Kansas State University
- 2017-2018 Co-director of the Kansas State University Biology, National Science Foundation Research Experiences for Undergraduates (REU) Site
- 2014-2017 Assistant Professor, Division of Biology, Kansas State University
- 2013-2014 Director of the Non-Centralized Animal Care Unit, Oklahoma State University
- 2010-2014 Assistant Professor, Department of Zoology, Oklahoma State University
- 2008-2010 Swiss National Science Foundation Postdoctoral Research Fellow, Department of Wildlife and Fisheries Sciences & Department of Biology, Texas A&M University
- 2008-2009 Lecturer, Department of Wildlife and Fisheries Sciences, Texas A&M University
- 2006-2007 Research Assistant for the Tar Creek EPA Superfund Project, Department of Zoology, University of Oklahoma
- 2005-2007 Affiliated Research Scholar, Department of Zoology, University of Oklahoma

HONORS AND AWARDS

- 2019 K-State Excellence in Engagement Award
- 2018-2019 K-State Civic Engagement Fellow
- 2018 James R. Coffman Leadership Institute
- 2018 Outstanding Graduate Faculty Award, K-State Biology Graduate Student Association
- 2014 Golden Torch Award in recognition of undergraduate teaching, Achafoa chapter of Mortar Board
- 2013 Margret S. Ewing Outstanding Mentor Award, OSU Zoology Graduate Student Society
- 2013 Sigma Xi Young Investigator Award

- 2012 Young Investigator Award of Sigma Xi's OSU chapter
 2010 Presentation Award of the Texas Chapter of the American Fisheries
 2009 FIRST IV Scholar funded by the National Science Foundation (PI: D. Ebert-May; Co-PI: T. Derting): Professional development program for teaching and learning in undergraduate biology
 2007 Stoye Award of the American Society of Ichthyologists and Herpetologists
 2004 Willi Studer Award of the Swiss Federal Institute of Technology Zürich (ETH)

RESEARCH GRANTS, SCHOLARSHIPS, AND FELLOWSHIPS

- 2016-2018 K-State Center for Engagement and Community Development, Engagement Incentive Grant (PI: Tobler, co-PIs: J. Bixby, N. Wade): Developing Capacities in Science Communication and Community Engagement. \$9,926.
 2016-2017 National Science Foundation, Integrative Organismal Systems, REU-Supplement (PI: Tobler): Physiological adaptation to extreme environments: genes, function, and evolutionary patterns. \$6,000.
 2016-2017 Department of Defense, Defense University Research Instrumentation Program (PI: Tobler): An integrated laboratory system for the study of physiological effects and processing of hydrogen sulfide. \$127,060.
 2016-2020 National Science Foundation, Integrative Organismal Systems (PI: Tobler, co-PIs: J. L. Kelley, J. Shaw): Physiological adaptation to extreme environments: genes, function, and evolutionary patterns. \$828,400.
 2015-2018 Army Research Office (PI: Tobler; co-PI: J. L. Kelley): A comparative approach to understanding the physiological effects and processing of hydrogen sulfide. \$389,240.
 2015-2016 K-INBRE Postdoctoral Program (PI: Culumber; co-PI: Tobler): Molecular pathways mediating responses to toxic hydrogen sulfide exposure. \$37,440.
 2015-2016 The Mohamed bin Zayed Species Conservation Fund (PI: Tobler; co-PI: Z. Culumber): Conservation of endangered evolutionary model systems inhabiting extreme environments. \$12,000.
 2013-2015 National Science Foundation, Integrative Organismal Systems, REU-Supplements (PI: Tobler): Replicated ecological speciation in extreme habitats: patterns, mechanisms, and consequences of multi-trait divergence. \$12,000.
 2011-2015 National Science Foundation, Integrative Organismal Systems (PI: Tobler; co-author: J. Kelley): Replicated ecological speciation in extreme habitats: patterns, mechanisms, and consequences of multi-trait divergence. \$481,000.
 2011-2012 Ralph E. Powe Junior Faculty Enhancement Award from Oak Ridge Associated Universities (ORAU) (PI: Tobler): Metabolic rates and transcriptomics in sulfide spring fish. \$10,000.
 2011-2014 Oklahoma Department of Wildlife Conservation, State Wildlife Grant (PI: Tobler; Co-PI: R. Morehouse): Determining factors affecting the distribution of endangered fish and crayfish species with emphasis on the Ozark region in Northeastern Oklahoma. \$99,900.
 2011-2014 Oklahoma Department of Wildlife Conservation, State Wildlife Grant (PI: S. Brewer; Co-PI: Tobler): The impacts of flow alterations to crayfishes in southeastern Oklahoma, with an emphasis on the Mena crayfish (*Orconectes menae*). \$93,700.
 2010-2011 Texas Sea Grant (Co-PIs: L. Fitzgerald & H. Prestridge): Morphological variation in Texas fish communities. \$9,000.
 2010-2011 National Geographic Society (PI: Tobler): Living in extreme environments - ecology, evolution, and conservation of sulfide fishes. \$14,800.

- 2008-2010 Swiss National Science Foundation (Postdoctoral Fellowship): Evolutionary consequences of extreme environmental conditions: Is living in sulfidic habitats causing speciation in *Poecilia mexicana*? \$79,000.
- 2007 Jordan Research Fund of the American Cichlids Association (PI: Tobler): The evolutionary ecology of two distinct morphotypes of *Archocentrus nigrofasciatus* in northeastern Honduras. \$2,300.
- 2007 Wolfermann Nägeli Foundation (Graduate Fellowship): MHC genes, parasites, and sex in a gynogenetic mating complex. \$20,500.
- 2007 Janggen Poehn Foundation (Graduate Fellowship): MHC genes, parasites, and sex in a gynogenetic mating complex. \$34,500.
- 2006 Vern Perish Fund of the American Livebearer Association (PI: Tobler): Darkness and hydrogen sulfide – adaptations of extremophile poeciliids from southern Mexico. \$1,000.
- 2006 Theodore Roosevelt Memorial Fund of the American Museum of Natural History (PI: Tobler): MHC genes, sex, and parasites in a gynogenetic complex of fish (*Poecilia*, Poeciliidae). \$1,100.
- 2006 German Ichthyological Association (Germany; PI: Tobler, Co-PI: M. Plath): The ichthyofauna of sulfidic habitats in southern Mexico. \$2,100.
- 2006 Wolfermann Nägeli Foundation (Graduate Fellowship): MHC genes, parasites, and sex in a gynogenetic mating complex. \$36,500.
- 2005 Basler Foundation for Biological Research (Graduate Fellowship): MHC genes, parasites, and sex in a gynogenetic mating complex. \$9,000.
- 2005 Janggen Poehn Foundation (Graduate Fellowship): MHC genes, parasites, and sex in a gynogenetic mating complex. \$18,000.
- 2005 Roche Research Foundation (Graduate Fellowship): Sex and parasites. \$23,000.
- 2004 Barth Foundation (PI: Tobler): Black spots and female association preferences in a sexual/ asexual mating complex. \$750.
- 2003 Society for Natural Sciences St. Gallen (PI: Tobler): Sex and parasites in gynogenetic fishes. \$500.
- 2003 Swiss Academy of Sciences (PI: Tobler): Sex and parasites in gynogenetic poeciliid fishes. \$1,800.
- 2003 Barth Foundation (PI: Tobler): Sex and parasites in gynogenetic fishes. \$900.

PEER-REVIEWED PUBLICATIONS

* denote graduate and ** undergraduate student co-authors directly supervised by MT

Accepted or In Press

- Greenway*, R., R. McNemee**, A. Okamoto**, M. Plath, L. Arias Rodriguez & **M. Tobler** (accepted): Correlated divergence of female and male genitalia in replicated lineages with ongoing ecological speciation. *Evolution*.
- Brown, A. P., K. L. McGowan, E. J. Schwarzkopf, R. Greenway*, L. Arias Rodriguez, *M. Tobler* & J. L. Kelley (accepted): Local ancestry analysis reveals genomic convergence in extremophile fishes. *Philosophical Transactions of the Royal Society B*.
- Hotaling, S., C. R. Quackenbush, J. Bennett-Ponsford, D. D. New, L. Arias-Rodriguez, **M. Tobler** & J. L. Kelley (in press): Microbial diversity in replicated hydrogen sulfide-rich streams. *Microbial Ecology*.

2019

Husemann, M., **M. Tobler**, B. Ding, R. Nguyen, C. McCauley, T. Pilger & P. D. Danley (2019): Complex patterns of genetic and phenotypic divergence in populations of the Lake Malawi cichlid *Maylandia zebra*. *Hydrobiologia* 832 (1): 135-151.

2018

Brown, A. P., L. Arias-Rodriguez, M.-C. Yee, **M. Tobler** & J. L. Kelley (2018): Concordant changes in gene expression and nucleotides underlie independent adaptation to hydrogen-sulfide-rich environments. *Genome Biology and Evolution* 10 (11): 2867-2881.

Culumber, Z. W. & **M. Tobler** (2018): Correlated evolution of thermal niches and functional physiology in tropical freshwater fishes. *Journal of Evolutionary Biology* 31 (5): 722-734.

Tobler, M., J. L. Kelley, M. Plath & R. Riesch (2018): Extreme environments and the origins of biodiversity: adaptation and speciation in sulfide spring fishes. *Molecular Ecology* 27 (4): 843-859.

Barts, N.*, R. Greenway*, C. N. Passow*, L. Arias-Rodriguez, J. L. Kelley & **M. Tobler** (2018): Molecular evolution and expression of oxygen transport genes in livebearing fishes (Poeciliidae) from hydrogen sulfide rich springs. *Genome* 61 (4): 273-286.

2017

Passow, C. N.*, C. Henpita, J. H. Shaw, C. R. Quackenbush, W. C. Warren, M. Schartl, L. Arias-Rodriguez, J. L. Kelley & **M. Tobler** (2017): The roles of plasticity and evolutionary change in shaping gene expression variation in natural populations. *Molecular Ecology* 26 (22): 6384-6399.

Passow, C. N.*, L. Arias-Rodriguez & **M. Tobler** (2017): Convergent evolution of reduced energy demands in extremophile fish. *PLOS ONE* 12 (10): e0186935.

Brown, A. P., R. Greenway*, S. Morgan**, C. R. Quackenbush, L. Giordano, L. Arias-Rodriguez, **M. Tobler** & J. L. Kelley (2017): Genome-scale data reveals that endemic *Poecilia* populations from small sulphidic springs display no evidence for inbreeding. *Molecular Ecology* 26 (19): 4920-4934.

Passow, C. N.*, A. P. Brown, L. Arias-Rodriguez, M.-C. Yee, A. Sockell, M. Schartl, W. C. Warren, C. Bustamante, J. L. Kelley & **M. Tobler** (2017): Complexities of gene expression patterns in natural populations of an extremophile fish (*Poecilia mexicana*, Poeciliidae). *Molecular Ecology* 26 (16): 4211-4225.

Culumber, Z. W. & **M. Tobler** (2017): Sex-specific evolution during the diversification of livebearing fishes. *Nature Ecology & Evolution* 1 (8): 1185-1191.

Husemann, M., **M. Tobler**, C. McCauley, B. Ding & P. D. Danley (accepted): Body shape differences in a pair of closely related Malawi cichlids and their hybrids: effects of genetic variation, phenotypic plasticity, and transgressive segregation. *Ecology and Evolution* 7 (12): 4336-4346.

Voelker, G., **M. Tobler**, H. L. Prestridge, E. Duijm, D. Groenenberg, M. R. Hutchinson, A. D. Martin, A. Nieman, C. S. Roselaar & J. W. Huntley (2017): Three new species of *Stiphornis* Forest Robins (Aves: Muscicapidae) from the Afro-tropics with a molecular phylogenetic assessment of the genus. *Systematics and Biodiversity* 15 (2): 87-104.

Featured by *Science Daily* and various international online and print media.

Hopper, G.*, R. L. Morehouse* & **M. Tobler** (2017): Body shape variation in two species of darters (*Etheostoma*, Percidae) and its relation to the environment. *Ecology of Freshwater Fish* 26 (1): 4-18.

Bagley, J. C., W. Matamoros, C. McMahan, **M. Tobler**, P. Chakrabarty & J. B. Johnson (2017): Phylogeography and species delimitation in convict cichlids (Cichlidae: *Amatitlania*):

implications for taxonomy and Plio–Pleistocene evolutionary history in Central America. *Biological Journal of the Linnean Society* 120 (1): 155-177.

2016

- Culumber, Z. W., G. W. Hopper*, N. Barts*, C. N. Passow*, S. Morgan**, A. Brown, L. Arias-Rodriguez & **M. Tobler** (2016): Habitat use of two extremophile, highly endemic, and critically endangered fish species (*Gambusia eurystoma* and *Poecilia sulphuraria*; Poeciliidae). *Aquatic Conservation - Marine and Freshwater Ecosystems* 26 (6): 1155-1167.
- Greenway, R.*, S. Drexler**, L. Arias-Rodriguez & **M. Tobler** (2016): Adaptive, but not condition-dependent, body shape differences contribute to assortative mating during ecological speciation. *Evolution* 70 (12): 2809-2822.
Featured by *Evolution Digests*.
- Tobler, M.**, C. N. Passow*, R. Greenway*, J. L. Kelley & J. H. Shaw (2016): The evolutionary ecology of animals inhabiting hydrogen sulfide rich environments. *Annual Review of Ecology, Evolution, and Systematics* 47: 239-262.
- Schulz-Mirbach, T., C. Eifert, R. Riesch, M. Farnworth, C. Zimmer, D. Bierbach, S. Klaus, **M. Tobler**, B. Streit, J. R. Indy, L. Arias-Rodriguez & M. Plath (2016): Toxic hydrogen sulphide shapes brain anatomy: a comparative study of sulphide-adapted ecotypes in the *Poecilia mexicana* complex. *Journal of Zoology (London)* 300: 163-176.
- Palacios, M.*, G. Voelker, L. Arias-Rodriguez, M. Mateos & **M. Tobler** (2016): Phylogenetic analyses of the subgenus *Mollienesia* (*Poecilia*, Poeciliidae, Teleostei) reveal taxonomic inconsistencies, cryptic biodiversity, and spatio-temporal aspects of diversification in Middle America. *Molecular Phylogenetics and Evolution* 103 (10): 230-244.
- Riesch, R. R., **M. Tobler**, H. Lerp, J. Jourdan, T. Dumas*, P. Nosil, R. B. Langerhans & M. Plath (2016): Extremophile Poeciliidae: multivariate insights into the complexity of speciation along replicated ecological gradients. *BMC Evolutionary Biology* 16: 136.
- Fitzgerald, D. B., **M. Tobler** & K. O. Winemiller (2016): From richer to poorer: successful invasion by freshwater fishes depends on species richness of donor and recipient basins. *Global Change Biology* 22 (7): 2440-2450.
- Kelley, J. L., L. Arias-Rodriguez, D. Patacsil Martin, M.-C. Yee, C. Bustamante & **M. Tobler** (2016): Mechanisms underlying adaptation to life in hydrogen sulfide rich environments. *Molecular Biology and Evolution* 33 (6): 1419-1434.
Featured by *MBE News*, *Scientific American*, and various international online and print media.
- Hopper, G. W.* & **M. Tobler** (2016): Patterns of trophic resource use and individual specialization in two species of darters (*Etheostoma*: Percidae). *Evolutionary Ecology Research* 17 (1): 53-73.
- Culumber, Z. W. & **M. Tobler** (2016): Ecological divergence and conservatism: spatiotemporal patterns of niche evolution in a genus of livebearing fishes (Poeciliidae: *Xiphophorus*). *BMC Evolutionary Biology* 16: 44.
- Culumber, Z. W. & **M. Tobler** (2016): Spatiotemporal environmental heterogeneity and the maintenance of the tailspot polymorphism in the variable platyfish (*Xiphophorus variatus*). *Evolution* 70 (2): 408-419.
- Tobler, M.**, D. M. Alba*, L. Arias-Rodriguez & P. D. Jeyasingh (2016): Using replicated evolution in extremophile fish to understand diversification in elemental composition and nutrient excretion. *Freshwater Biology* 61 (1): 158-171.

2015

- Passow, C. N.*, R. Greenway**, L. Arias-Rodriguez, P. D. Jeyasingh & **M. Tobler** (2015): Reduction of energetic demands through modification of body size and routine metabolic rates in extremophile fish. *Physiological and Biochemical Zoology* 88 (4): 371-383.
- Tobler, M.**, K. Scharnweber*, R. Greenway**, C. N. Passow*, L. Arias-Rodriguez & F. J. Garcia-De-Leon (2015): Convergent changes in the trophic ecology of extremophile fish occurring along replicated environmental gradients. *Freshwater Biology* 60 (4): 768-780.
- Culumber, Z. W., M. Schumer, S. Monks & **M. Tobler** (2015): Environmental heterogeneity generates opposite gene-by-environment interactions for two fitness-related traits within a population. *Evolution* 69 (2): 541-550.
- Eifert, C., M. Farnworth, T. Schulz–Mirbach, R. Riesch, D. Bierbach, S. Klaus, A. Wurster, **M. Tobler**, B. Streit, J. R. Indy, L. Arias–Rodriguez & M. Plath (2015): Brain size variation in extremophile fish: local adaptation vs. phenotypic plasticity. *Journal of Zoology (London)* 295 (2): 143-153.

2014

- Greenway, R.**, L. Arias-Rodriguez, P. Diaz & **M. Tobler** (2014): Patterns of macroinvertebrate and fish diversity in freshwater sulphide springs. *Diversity* 6 (3): 597-632.
- Sanchez, J. L., B. B. Boutwel, S. T. Hamontree, G. P. Garrett, R. H. Lewis, A. N. Ragan, **M. Tobler** & R. Deaton Haynes (2014): Reproductive characteristics of two *Gambusia* congeners in west Texas. *Southwestern Naturalist* 59 (3): 438-441.
- Culumber, Z. W., C. E. Bautista-Hernandez, S. Monk, L. Arias-Rodriguez & **M. Tobler** (2014): Variation in melanism and female preference in proximate but ecologically distinct environments. *Ethology* 120 (11): 1090-1100.
- Alberici da Barbiano, L., R. J. Robinson, **M. Tobler**, A. S. Aspbury & C. R. Gabor (2014): Differences in resource assimilation between the unisexual Amazon molly, *Poecilia formosa* (Poeciliidae) and its sexual host (*Poecilia latipinna*). *Environmental Biology of Fishes* 97 (8): 875-880.
- Tobler, M.**, C. Henpita, B. Bassett**, J. L. Kelley & J. H. Shaw (2014): H₂S exposure elicits differential expression of candidate genes in fish adapted to sulfidic and non-sulfidic environments. *Comparative Biochemistry and Physiology A: Molecular & Integrative Physiology* 175: 7-14.
- Pfenninger, M., H. Lerp, **M. Tobler**, C. Passow*, J. L. Kelley, E. Funke, B. Greshake, U. K. Erkoç, T. Berberich & M. Plath (2014): Parallel evolution of cox-genes in H₂S-tolerant fish as key adaptation to a toxic environment. *Nature Communications* 5: 3873.
- Tobler, M.**, M. Plath, R. Riesch, I. Schlupp, A. Grasse, G. Munimanda, C. Setzer, D. J. Penn & Y. Moodley (2014): Selection from parasites favors immunogenetic diversity but not divergence among locally adapted host populations. *Journal of Evolutionary Biology* 27 (5): 960-974.
- Husemann, M., **M. Tobler**, C. McCauley, B. Ding & P. D. Danley (2014): Evolution of body shape in differently colored sympatric congeners and allopatric populations of Lake Malawi's rock-dwelling cichlids. *Journal of Evolutionary Biology* 27 (5): 826-839.
- Jeyasingh, P. D., R. D. Cothran & **M. Tobler** (2014): Testing the ecological consequences of evolutionary change using elements. *Ecology and Evolution* 4 (4): 528-538.
- Tobler, M.** & N. Bertrand* (2014): Morphological variation in vanishing Mexican desert fishes of the genus *Characodon* (Goodeidae). *Journal of Fish Biology* 84 (2): 283-296.
- Riesch, R. W., M. Plath, I. Schlupp, **M. Tobler** & B. Langerhans (2014): Colonization of toxic environments drives predictable life-history evolution in livebearing fishes (Poeciliidae). *Ecology Letters* 17 (1): 65-71.
- Featured in the Research Highlights of *Nature* and *Evolutionary Applications*

2013

- Morehouse, R. L.*, M. Papeş & **M. Tobler** (2013): Predicting and mapping the potential distribution of the painted devil crayfish, *Cambarus ludovicianus* Faxon (Decapoda: Cambaridae). *Southwestern Naturalist* 58 (4): 435-439.
- Tobler, M.**, K. Roach, K. O. Winemiller, R. L. Morehouse* & M. Plath (2013): Population structure, habitat use, and diet of giant waterbugs in a sulfidic cave. *Southwestern Naturalist* 58 (4): 420-426.
- Morehouse, R. L. & **M. Tobler** (2013): Crayfishes (Decapoda: Cambaridae) of Oklahoma: identification, distributions, and natural history. *Zootaxa* 3717 (2): 101-157.
- Plath, M., M. Pfenninger, H. Lerp, R. Riesch, C. Eschenbrenner, P.A. Slattery, D. Bierbach, N. Herrmann, M. Schulte, L. Arias Rodriguez, J.R. Indy, C. Passow* & **M. Tobler** (2013): Genetic differentiation and selection against migrants in evolutionarily replicated extreme environments. *Evolution* 67 (9): 2647-2661.
- Palacios, M.*, L. Arias-Rodriguez, M. Plath, C. Eifert, H. Lerp, A. Lamboj, G. Voelker & **M. Tobler** (2013): The rediscovery of a long described species reveals additional complexity in speciation patterns of poeciliid fishes in sulfide springs. *PLOS ONE* 8 (8): e71069.
- Franssen, N.R. & **M. Tobler** (2013): Upstream effects of a reservoir on fish assemblages 45 years following impoundment. *Journal of Fish Biology* 82 (5): 1659-1670.
- Morehouse, R.* & **M. Tobler** (2013): Invasion of rusty crayfish (*Orconectes rusticus*) in the United States: niche shifts and potential future distribution. *Journal of Crustacean Biology* 33 (2): 293-300.

2012

- Kelley, J. L., C. N. Passow*, M. Plath, L. Arias Rodriguez, M.-C. Yee & **M. Tobler** (2012): Genomic resources for a model in adaptation and speciation research: characterization of the *Poecilia mexicana* transcriptome. *BMC Genomics* 13: 652.
- Slattery, P., C. Eschenbrenner, L. Arias-Rodriguez, B. Streit, D. Bierbach, R. Riesch, **M. Tobler**, M. Pfenninger, B. Feldmeyer, M. Plath & H. Lerp (2012): Twelve new microsatellite loci for the sulphur molly (*Poecilia sulphuraria*) and the related Atlantic molly (*P. mexicana*). *Conservation Genetics Resources* 4 (4): 935-937.
- Culumber, Z. W., D. B. Shepard, S. W. Coleman, G. G. Rosenthal & **M. Tobler** (2012): Physiological adaptation along environmental gradients and replicated hybrid zone structure in swordtails (Teleostei: *Xiphophorus*). *Journal of Evolutionary Biology* 25 (9): 1800-1814.
- Carson, E. W., **M. Tobler**, W. L. Minckley, R. J. Ainsworth & T. E. Dowling (2012): Relationships between spatio-temporal environmental and genetic variation reveal an important influence of exogenous selection in a pupfish hybrid zone. *Molecular Ecology* 21 (5): 1209-1222.

2011

- Scharnweber, K.*, M. Plath & **M. Tobler** (2011): Trophic niche segregation between the sexes of two species of livebearing fishes (Poeciliidae). *Bulletin of Fish Biology* 13 (1/2): 11-20.
- Scharnweber, K.*, M. Plath, K. Winemiller & **M. Tobler** (2011): Dietary niche overlap in sympatric asexual and sexual livebearing fishes (*Poecilia* spp.). *Journal of Fish Biology* 79 (7): 1760-1773.
- Tobler, M.** & L. Hastings** (2011): Convergent patterns of body shape differentiation in four different clades of poeciliid fishes inhabiting sulfide springs. *Evolutionary Biology* 38 (4): 412-421.
- Roach, K., **M. Tobler** & K.O. Winemiller (2011): Hydrogen sulfide, bacteria, and fish: a unique, subterranean food chain. *Ecology* 92 (11): 2056-2062.
Featured by the *Texas Farm Bureau Radio Show* and various international online media

- Scharnweber, K.*, M. Plath & **M. Tobler** (2011): Examination of boldness traits in sexual and asexual mollies (*Poecilia latipinna*, *P. formosa*). *Acta Ethologica* 14 (2): 77-83.
- Tobler, M.**, M. Palacios*, L. J. Chapman, I. Mitrofanov, D. Bierbach, M. Plath, L. Arians-Rodriguez, F. J. Garcia de Leon & M. Mateos (2011): Evolution in extreme environments: replicated phenotypic differentiation in livebearing fish inhabiting sulfidic springs. *Evolution* 65 (8): 2213-2228.
- Bierbach, D., M. Schulte, N. Herrmann, **M. Tobler**, S. Stadler, C.T. Jung, B. Kunkel, R. Riesch, S. Klaus, M. Ziege, J. Rimber Indy, L. Arias-Rodriguez & M. Plath (2011): Predator-induced changes of female mating preferences: innate and experiential effects. *BMC Evolutionary Biology* 11: 190.
- Tobler, M.**, I. Schlupp & M. Plath (2011): Female feeding time reductions in the presence of males: sexual harassment or costly female choice? *Behavioral Ecology* 22 (4): 723-729.
- Plath, M., R. Riesch, Z.W. Culumber, B. Streit & **M. Tobler** (2011): Predation by a giant water bug (*Belostoma* sp.) on a cavefish (*Poecilia mexicana*): effects of female body size and gestational state. *Evolutionary Ecology Research* 13: 133-144.
- Franssen, N.R., **M. Tobler** & K.B. Gido (2011): Annual variation of community biomass is lower in more diverse stream fish communities. *Oikos* 120 (4): 582-590.
- Tobler, M.**, Z.W. Culumber, M. Plath, K.O. Winemiller & G.G. Rosenthal (2011): An indigenous religious ritual selects for resistance to a toxicant in a livebearing fish. *Biology Letters* 7 (2): 229-232.
- Listed among the most read articles in *Biology Letters*; featured by the *AAAS Science Update* podcast, *The Lob Down on Science* podcast, *Smithsonian Magazine*, *MSNBC*, *Fox News*, *Yahoo*, *Livescience.com*, *New Scientist*, *Science Daily*, *Discover Magazine*, *Scienceblog.com*, *Archaeology Magazine*, *The Daily O'Collegian*, and various international online and print media.
- Scharnweber, K.*, M. Plath & **M. Tobler** (2011): Feeding efficiency and food competition in coexisting sexual and asexual livebearing fishes of the genus *Poecilia*. *Environmental Biology of Fishes* 90 (2): 197-205.
- Culumber, Z.W., H.S. Fisher, **M. Tobler**, M. Mateos, P.H. Barber, M.D. Sorenson & G.G. Rosenthal (2011): Replicated hybrid zones of *Xiphophorus* swordtails along an elevational gradient. *Molecular Ecology* 20 (2): 342-356.

2010

- Ketmaier, V., H. Stuckas, J. Hempel, I. Laneck, **M. Tobler**, M. Plath & R. Tiedemann (2010): Genetic and morphological divergence in the gravel bank grasshopper *Chorthippus pullus* (Acrididae) from contrasting environments. *Organisms Diversity & Evolution* 10 (5): 381-395.
- Schlupp, I., R. Riesch, **M. Tobler**, M. Plath, J. Parzefall & M. Scharl (2010): A novel, sexually selected trait in poeciliid fishes: female preference for mustache-like, rostral filaments in male *Poecilia sphenops*. *Behavioral Ecology and Sociobiology* 64 (11): 1849-1855.
- Featured by *BBC News*, *National Public Radio's "Wait, Wait, Don't Tell Me..."*, and various international online and print media
- Plath, M., B. Hermann, C. Schröder, R. Riesch, **M. Tobler**, F.J. García de León, I. Schlupp & R. Tiedemann (2010): Catastrophic flood does not lead to loss of small-scale genetic differentiation among locally adapted populations of an extremophile fish (*Poecilia mexicana*, Poeciliidae). *BMC Evolutionary Biology* 10: 256.
- Voelker, G., R. K. Outlaw, S. Reddy, **M. Tobler**, J. M. Bates, S. J. Hackett, C. Kahindo, B. D. Marks, J. K. Peterhans & T. P. Gnoske (2010): A new species of boubou (Malaconotidae: *Laniarius*) from the Albertine Rift. *The Auk* 127 (3): 678-689.

- Plath, M., R. Riesch, A. Oranth, J. Dzienko, N. Karau, A. Schiessl, S. Stadler, A. Wigh, C. Zimmer, L. Arias-Rodriguez, I. Schlupp & **M. Tobler** (2010): Complementary effects of natural and sexual selection against immigrants maintains differentiation between locally adapted fish. *Naturwissenschaften* 97 (8): 769-774.
- Tobler, M.** & E. W. Carson (2010): Environmental variation, hybridization, and phenotypic diversification in Cuatro Ciénegas pupfishes. *Journal of Evolutionary Biology* 23 (7): 1475-1489.
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- Tobler, M.** & I. Schlupp (2010): Differential susceptibility to food stress in neonates of sexual and asexual mollies (*Poecilia*, Poeciliidae). *Evolutionary Ecology* 24 (1): 39-47.
- Tobler, M.**, S. W. Coleman, B. D. Perkins & G. G. Rosenthal (2010): Reduced opsin gene expression in a cave-dwelling fish. *Biology Letters* 6 (1): 98-101.

2009

- Tobler, M.**, R. Riesch, C. M. Tobler, T. Schulz-Mirbach & M. Plath (2009): Natural and sexual selection against immigrants maintains differentiation among micro-allopatric populations. *Journal of Evolutionary Biology* 22 (11): 2298-2304.
- Fontanier, M. E.** & **M. Tobler** (2009): A morphological gradient revisited: cave mollies vary not only in eye size. *Environmental Biology of Fishes* 86 (2): 285-292.
- Tobler, M.**, R. Riesch, C. M. Tobler & M. Plath (2009): Compensatory behavior in response to sulfide-induced hypoxia affects time budgets, feeding efficiency, and predation risk. *Evolutionary Ecology Research* 11 (3): 935-948.
- Tobler, M.** & M. Plath (2009): Threatened fishes of the world: *Poecilia sulphuraria* (Alvarez, 1948) (Poeciliidae). *Environmental Biology of Fishes* 85 (4): 333-334.
- Tobler, M.** (2009): Does a predatory insect contribute to the divergence between cave- and surface-adapted fish populations? *Biology Letters* 5 (4): 506-509.
Featured in *Science Magazine*, *Spektrum der Wissenschaft*, and various international online and print media
- Tobler, M.** & M. Plath (2009): Threatened fishes of the world: *Gambusia eurystoma* Miller, 1975 (Poeciliidae). *Environmental Biology of Fishes* 85 (3): 251.
- Tobler, M.** & I. Schlupp (2009): Threatened fishes of the world: *Poecilia latipunctata* Meek, 1904 (Poeciliidae). *Environmental Biology of Fishes* 85 (1): 31-32.
- Riesch, R., **M. Tobler**, M. Plath & I. Schlupp (2009): Offspring number in a livebearing fish (*Poecilia mexicana*, Poeciliidae): reduced fecundity and reduced plasticity in a population of cave mollies. *Environmental Biology of Fishes* 84 (1): 89-94.

2008 and prior

- Plath, M., **M. Tobler**, O. Klawonn & J. Parzefall (2008): Male mating behavior and sexual harassment in population hybrids of cave and surface dwelling Atlantic mollies (*Poecilia mexicana*, Poeciliidae). *Bulletin of Fish Biology* 10 (1/2): 69-80.
- Schaschl, H., **M. Tobler**, M. Plath, D. J. Penn & I. Schlupp (2008): Polymorphic MHC loci in an asexual fish, the Amazon molly (*Poecilia formosa*, Poeciliidae). *Molecular Ecology* 17 (24): 5220-5230.
- Franssen, C. M., **M. Tobler**, R. Riesch, F. J. García de León, R. Tiedemann, I. Schlupp & M. Plath (2008): Sperm production in an extremophile fish, the cave molly (*Poecilia mexicana*, Poeciliidae, Teleostei). *Aquatic Ecology* 42 (4): 685-692.
- Tobler, M.** (2008): Divergence in trophic ecology characterizes colonization of extreme habitats. *Biological Journal of the Linnean Society* 95 (3): 517-528.

- Tobler, M.**, T. J. DeWitt, I. Schlupp, F. J. García de León, R. Herrmann, P. G. D. Feulner, R. Tiedemann & M. Plath (2008): Toxic hydrogen sulfide and dark caves: Phenotypic and genetic divergence across two environmental gradients in *Poecilia mexicana*. *Evolution* 62 (10): 2643-2649.
- Tobler, M.**, I. Schlupp & M. Plath (2008): Does divergence in female mate choice affect male size distributions in two cave fish populations? *Biology Letters* 4 (5): 452-454.
Featured in *Die Ärztezeitung*, *Biologie in unserer Zeit*, *Scinexx*, *Wallstreet Online*, and various online media.
- Tobler, M.** & I. Schlupp (2008): Expanding the horizon: The Red Queen and potential alternatives. *Canadian Journal of Zoology* 86 (8): 765-773.
- Tobler, M.**, C. M. Franssen & M. Plath (2008): Male-biased predation on a cavefish by a giant water bug. *Naturwissenschaften* 95 (8): 775-779.
Featured in *BBC Wildlife Magazine*.
- Tobler, M.**, R. Riesch, F. J. García de León, I. Schlupp & M. Plath (2008): A new and morphologically distinct cavernicolous population of *Poecilia mexicana* (Poeciliidae, Teleostei). *Environmental Biology of Fishes* 82 (1): 101-108.
- Tobler, M.**, R. Riesch, F. J. García de León, I. Schlupp & M. Plath (2008): Two endemic and endangered fishes, *Poecilia sulphuraria* and *Gambusia eurystoma* (Poeciliidae, Teleostei), as only survivors in a small sulfidic habitat. *Journal of Fish Biology* 72 (3): 523-533.
Featured in *Practical Fish Keeping Magazine* and *The Aquaristologist*.
- Tobler, M.** & I. Schlupp (2008): Influence of black spot disease on shoaling behaviour in female western mosquitofish, *Gambusia affinis* (Poeciliidae, Teleostei). *Environmental Biology of Fishes* 81 (1): 29-34.
- Plath, M., **M. Tobler**, R. Riesch, F. J. García de León, O. Giere & I. Schlupp (2007): Survival in an extreme habitat: the role of behavior and energy limitation. *Naturwissenschaften* 94 (12): 991-996.
- Tobler, M.**, I. Schlupp & M. Plath (2007): Predation of a cave fish (*Poecilia mexicana*, Poeciliidae) by a giant water-bug (*Belostoma*, Belostomatidae) in a Mexican sulfur cave. *Ecological Entomology* 32 (5): 492-495.
- Parzefall, J., C. Kraus, **M. Tobler** & M. Plath (2007): Photophilic behaviour in a cave fish, *Poecilia mexicana* (Poeciliidae). *Journal of Fish Biology* 71 (4): 1225-1231.
- Plath, M. & **M. Tobler** (2007): Sex recognition in surface- and cave-dwelling Atlantic molly females (*Poecilia mexicana*, Poeciliidae, Teleostei): influence of visual and non-visual cues. *Acta Ethologica* 10 (2): 81-88.
- Tobler, M.** (2007): Reversed sexual dimorphism and female courtship in the Topaz cichlid, *Archocentrus myrnae* (Cichlidae, Teleostei), from Costa Rica. *Southwestern Naturalist* 52 (3): 371-377.
- Plath, M., A. M. Makowicz, I. Schlupp & **M. Tobler** (2007): Sexual harassment in livebearing fishes (Poeciliidae): comparing courting and non-courting species. *Behavioral Ecology* 18 (4): 680-688.
- Tobler, M.**, I. Schlupp, F. J. García de León, M. Glaubrecht & M. Plath (2007): Extreme habitats as refuge from parasite infections? Evidence from an extremophile fish. *Acta Oecologica* 31 (3): 270-275.
- Plath, M., S. Hauswaldt, K. Moll, **M. Tobler**, F. J. García de León, I. Schlupp & R. Tiedemann (2007): Local adaptation and pronounced genetic differentiation in an extremophile fish, *Poecilia mexicana*, inhabiting a Mexican cave with toxic hydrogen sulfide. *Molecular Ecology* 16 (5): 967-976.

- Tobler, M.**, H. Burmeister, I. Schlupp & M. Plath (2006): Regressive evolution of visually mediated preferences in the Cave molly (*Poecilia mexicana*, Poeciliidae, Teleostei). *Subterranean Biology* 4 (1): 59-65.
- Plath, M. & **M. Tobler** (2006): Coercive mating and genitalia size in two populations of a livebearing toothcarp (*Poecilia mexicana*): do Cave molly males have shorter gonopodia? *Zeitschrift für Fischkunde* 8 (1-2): 103-107.
- Tobler, M.** (2006): The eggspots of cichlids: Evolution through sensory exploitation? *Zeitschrift für Fischkunde* 8 (1-2): 39-46.
- Schlupp, I., J. Poschadel, **M. Tobler** & M. Plath (2006): Male size polymorphism and testis weight in two species of mollies (*Poecilia latipinna*, *P. mexicana*, Poeciliidae, Teleostei). *Zeitschrift für Fischkunde* 8 (1-2): 9-16.
- Tobler, M.**, I. Schlupp, K. U. Heubel, R. Riesch, F. J. García de León, O. Giere & M. Plath (2006): Life on the edge: Hydrogen sulfide and the fish communities of a Mexican cave and surrounding waters. *Extremophiles* 10 (6): 577-585.
- Riesch, R., I. Schlupp, **M. Tobler** & M. Plath (2006): Reduction of the association preference for conspecifics in cave-dwelling Atlantic mollies, *Poecilia mexicana*. *Behavioral Ecology and Sociobiology* 60 (6): 794-802.
- Tobler, M.**, M. Plath, H. Burmeister & I. Schlupp (2006): Black spots and female association preferences in a sexual/ asexual mating complex (*Poecilia*, Poeciliidae, Teleostei). *Behavioral Ecology and Sociobiology* 60 (2): 159-165.
- Tobler, M.**, K. Wiedemann & M. Plath (2005): Homosexual behaviour in a cavernicolous fish, *Poecilia mexicana* (Poeciliidae, Teleostei). *Zeitschrift für Fischkunde* 7 (2): 95-99.
- Tobler, M.**, T. Wahli & I. Schlupp (2005): Comparison of parasite communities in native and introduced populations of sexual and asexual mollies of the genus *Poecilia* (Poeciliidae, Teleostei). *Journal of Fish Biology* 67 (4): 1072-1082.
- Tobler, M.** & I. Schlupp (2005): Parasites in sexual and asexual mollies (*Poecilia*, Poeciliidae, Teleostei): A case for the Red Queen? *Biology Letters* 1 (2): 166-168.
- Tobler, M.** (2005): Feigning death in the Central American cichlid *Parachromis friedrichsthalii*. *Journal of Fish Biology* 66 (3): 877-881.
Featured in *Science News Magazine*.
- Plath, M., **M. Tobler** & I. Schlupp (2004): Cave fish looking for mates: A visual mating preference in surface- and cave-dwelling Atlantic mollies (*Poecilia mexicana*, Poeciliidae). *Zeitschrift für Fischkunde* 7 (1): 61-69.

PERSPECTIVES AND OTHER PAPERS

- Tobler, M.** & Z. W. Culumber (2016): Swimming in polluted waters. *Science* 354 (6317): 1232-1233.
Featured by the *New York Times*.
- Schlupp, I., R. Riesch & **M. Tobler** (2007): Amazon mollies. *Current Biology* 17 (14): R536-R537.

EDITED BOOK

- Riesch, R., **M. Tobler** & M. Plath (eds.) (2015): Extremophile Fishes: Ecology, Evolution, and Physiology of Teleosts in Extreme Environments. Springer, Heidelberg.

BOOK CHAPTERS

- Tobler, M.**, R. Riesch & M. Plath (2015): Extremophile fishes: an integrative synthesis. In: R. Riesch, M. Tobler & M. Plath (eds.): Extremophile Fishes: Ecology, Evolution, and Physiology of Teleosts in Extreme Environments. Springer, Heidelberg: 279-296

- Riesch, R., **M. Tobler** & M. Plath (2015): Hydrogen sulfide-toxic habitats. In: R. Riesch, M. Tobler & M. Plath (eds.): Extremophile Fishes: Ecology, Evolution, and Physiology of Teleosts in Extreme Environments. Springer, Heidelberg: 137-159.
- Plath, M., **M. Tobler** & R. Riesch (2015): Extremophile fishes: an introduction. In: R. Riesch, M. Tobler & M. Plath (eds.): Extremophile Fishes: Ecology, Evolution, and Physiology of Teleosts in Extreme Environments. Springer, Heidelberg: 1-7.
- Morehouse, R. L.* & **M. Tobler** (2014): Striped Shiner (*Luxilus chrysocephalus* Rafinesque 1820). In: D. A. Distler, M. E. Eberle, D. R. Edds, K. B. Gido, S. G. Haslouer, D. G. Huggins, T. D. Mosher, W. J. Stark, J. R. Tomelleri, J. R. Triplett & E. O. Wiley (eds.): Kansas Fishes. University Press of Kansas, Lawrence, KS, USA: 171-172.
- Tobler, M.** (2013): Morphologische Unterschiede in *Characodon* Populationen. In: M. Kempkes, M. Köck & R. Stawikowski (eds.): Beiträge zur Biologie und zum Artenschutz der Hochlandkärpflinge. Westarp Wissenschaften, Hohenwarsleben, Germany: 29-36.
- Tobler, M.** & M. Plath (2011): Living in extreme environments. In: J. Evans, A. Pilastro & I. Schlupp (eds.): Ecology and Evolution of Poeciliid Fishes. Chicago University Press, Chicago, IL, USA: 120-127.
- Plath, M. & **M. Tobler** (2010): Subterranean fishes of Mexico (*Poecilia mexicana*, Poeciliidae). In: E. Trajano, M. E. Bichuette & B. G. Kapoor (eds.): The Biology of Subterranean Fishes. Science Publishers, Enfield, NH, USA: 283-332.

TEACHING EXPERIENCE AND TEACHING EDUCATION

-
- 2015-present Division of Biology, Kansas State University; courses taught:
- BIOL 201; Organismic Biology (with lab; 3 semesters)
 - BIOL 520; Evolution (1 semester)
 - BIOL 542; Ichthyology (with lab; 2 semesters)
 - BIOL 875; Evolutionary Ecology (1 semester)
 - BIOL 890; Molecular Physiology of Fishes (with lab; 1 semester)
- 2011-2014 Department of Zoology, Oklahoma State University; courses taught:
- ZOOL 3700/5020; Introduction to Fish Biology (with lab; 2 semesters)
 - ZOOL 4133; Evolution (7 semesters)
 - ZOOL 5010; Linking Ecology and Evolution (graduate seminar; co-taught with P. Jeyasingh; 1 semester)
 - ZOOL 5010; Speciation (graduate seminar; co-taught with P. Campbell; 1 semester)
 - ZOOL 5010; The Flexible Phenotype (graduate seminar; co-taught with P. Jeyasingh; 1 semester)
- 2009-2010 Participant in FIRST IV, a national dissemination project funded by the National Science Foundation designed to reform undergraduate science education through professional development
- 2008-2009 Department of Wildlife and Fisheries Sciences, Texas A&M University; courses taught:
- WFSC 311: Introduction to Ichthyology (2 semesters)
- 2002-2003 Department of Biology, Swiss Federal Institute of Technology Zürich (ETH); courses taught:
- Systematic Botany and Plant Ecology (Teaching Assistant; 3 semesters)

MENTORSHIP

Post-Doctoral Scholars

- Dr. Zachary Culumber, 2014-2017. Current position: Assistant Professor at the University of Alabama – Huntsville

Current graduate students

- Libby Wilson (M. S. student), 2018-date
- John Coffin (Ph.D. student), 2017-date; Graduate Assistance in Areas of National Need (GAANN) Fellow
- Bryan Frenette (Ph.D. student), 2015-date (co-advised with Keith Gido); funded through the Konza NSF Long Term Ecological Research Network
- Nicholas Barts (Ph.D. student), 2015-date; Graduate Assistance in Areas of National Need (GAANN) Fellow
- Ryan Greenway (Ph.D. student), 2014-date; NSF Graduate Research Fellow

Former graduate students

- Henry Camarillo, M.S. 2018. Current position: Ph. D. student at Virginia Tech University
- Maura Palacios, Ph.D. 2017 (co-advised with Gary Voelker; Texas A&M University). Current position: HHMI Post-Doctoral Scholar in Environmental DNA Research, Education, and Outreach at UCLA
- Courtney Passow, Ph.D. 2016. Current position: Grand Challenges in Biology Postdoctoral Fellow at the University of Minnesota
- Garrett Hopper, M.S. 2015. Current position: Ph. D. student at Kansas State University
- Danielle Alba, M.S. 2015 (co-advised with Puni Jeyasingh; Oklahoma State University). Current position: Adjunct Faculty at College of Western Idaho
- Tess Doumas, M.S. 2014. Current position: Ph. D. student at the University of Houston
- Reid Morehouse, Ph.D. 2014. Current position: Assistant Professor at Ivy Tech Community College
- Kristin Scharnweber, M.S. 2010 (co-advised with Martin Plath; University of Frankfurt, Germany). Current position: Postdoctoral researcher at Uppsala University, Sweden

Graduate committee member

- Aakash Pandey, Ph. D. student, 2018-date (K-State, Biology; main advisor: T. Platt)
- Lauren Konrade, Ph. D. student, 2017-date (K-State, Biology; main advisor: M. Ungerer)
- Casey Pennock, Ph. D. student, 2017-date (K-State, Biology; main advisor: K. Gido)
- Lindsey Bruckerhoff, Ph. D. student, 2016-date (K-State, Biology; main advisor: K. Gido)
- Sarah Winnicki, M. S. student, 2016-date (K-State, Biology; main advisor: A. Boyle)
- Samantha Sharpe, Ph. D. student, 2015-date (K-State, Biology; main advisor: M. Ungerer)
- Elsie Shogren, Ph. D. student, 2015-date (K-State, Biology; main advisor: A. Boyle)
- Carly Aulicky, Ph. D. student, 2015-date (K-State, Biology; main advisor: D. Haukos)
- Garrett Hopper, Ph. D. student, 2015-date (K-State, Biology; main advisor: K. Gido)
- Philip Freda, Ph.D. 2018 (K-State, Entomology; main advisors: G. Ragland & T. J. Morgan)
- Chathurika Henpita Ruchirani, Ph. D. 2018 (OSU, Zoology; main advisor: J. Shaw)
- Juan Carlos López Hernández, Lic. Biol. 2017 (UJAT, Biology; main advisor: L. Arias Rodriguez)

- Megan Trope, Ph. D. 2017 (OSU, Zoology; main advisor: R. Van Den Bussche)
- Ryland Taylor, M.S. 2017 (K-State, Biology; main advisor: M. Mather)
- Lynne Beaty, Ph. D. 2017 (OSU, Zoology; main advisor: B. Luttbeg)
- Casey Pennock, M. S. 2016 (K-State, Biology; main advisor: K. Gido)
- Jared Goos, Ph. D. 2016 (OSU, Zoology; main advisor: P. Jeyasingh)
- Chelsea Baker, M. S. 2015 (OSU, Zoology; main advisor: M. Lovern)
- Ally Loveless, M. S. 2014 (OSU, Zoology; main advisor: M. Papeş)
- Christopher Tanner, M. S. 2014 (OSU, NREM; main advisor: J. Long)
- Chris Musselman, M. S. 2014 (OSU, NREM; main advisor: S. Brewer)
- Priyanka Chowdhury, Ph. D. 2014 (OSU, Zoology; main advisor: P. Jeyasingh)
- Joseph Dyer, M. S. 2014 (OSU, NREM; main advisor: S. Brewer)
- Blake Stevison, M. S. 2013 (OSU, Zoology; main advisor: B. Luttbeg)
- Joseph Schmitt, M. S. 2012 (OSU, NREM; main advisor: D. Shoup)

Undergraduate and high school researchers

- Cassie Delich (2018-date, K-State); College of Arts and Sciences Undergraduate Research Scholar
- Michael Laughlin (2017-2018, K-State)
- Millie Dinkel (2017-date, K-State)
- Rachel McNemee (2016-date, K-State)
- Nichole Nieves (2015-date, K-State); K-State College of Arts and Sciences Undergraduate Research Scholar, NSF-REU Scholar, K-INBRE Research Scholar
- Audrey Arner (2017, Pennsylvania State University); NSF-REU Scholar
- Sam Morgan (2015-2017, Manhattan High School & K-State); NSF-REU Scholar
- Gilbert A. Keithline (2016-2017, K-State)
- Alexander Okamoto (2016, University of Chicago); NSF-REU Scholar
- Donovan Michael (2016, K-State)
- Shannon Drexler (2015, University of Wisconsin-Platteville); NSF-REU Scholar
- Zeke Gonzalez (2015, University of Maryland); NSF-REU Scholar
- Courtney Saylor (2014-2015, K-State)
- Mattie Bieberly (2014-2015, K-State); SCTE Undergraduate Research Scholar
- Brecken Brown (2014, K-State)
- Ryan Greenway (2011-2014, OSU); Freshman Research Scholar, Niblack Research Scholar, Wentz Research Scholar
- Cierra Keith (2012-2014, OSU); Freshman Research Scholar, Niblack Research Scholar
- Josh Garner (2013-2014, OSU); NSF-URM Scholar
- Shelby Burr ridge (2013, OSU)
- Daylon Edward (2013, OSU)
- Brandon Bassett (2013, OSU); Fellow of the OSU Center of Veterinary Health Services Summer Research Training Program
- Garrett Hopper (2012-2013, OSU)
- Drew Miller (2011-2013, OSU)
- Emily Laurel (2011-2013, OSU)
- Jennifer Gaither (2012-2013, OSU)

- Tony Balda (2012-2013, OSU)
- Sarah Ball (2012-2013, OSU)
- Alex Williams (2012-2013, OSU)
- Kiara Andrews (2012, OSU)
- Anna Baroni (2011-2012, OSU)
- Jessy Casey (2011, OSU)
- Isabelle Gemmer (2011, University of Landau, Germany); Fellow of the German Academic Exchange Service
- Riva Riley (Harvard University, 2010)
- Logan Hastings (2009-2010, Texas A&M)
- Maxwell Fontanier (2008-2010, Texas A&M)
- Christopher Vaughn (2009, Texas A&M)
- Kelly Gonzales (2009, Texas A&M)
- Colby Crouse (2009, Texas A&M)
- Sarah Richardson (2006-2008, OU)
- Sarah Ali, (2006-2007, OU)
- Naomi Kim (2006-2007, OU)
- Tami Thomason (2005-2006, OU)

ADVISEE ACCOMPLISHMENTS

- 2018 *Nick Barts*: Golden Key Outstanding GTA of the Year Award; Graduate Student Council Award for Graduate Student Teaching Excellence (\$500); Stamey Undergraduate GTA Teaching Award (\$500); College of Arts & Sciences Research Travel Award (\$800)
- Henry Camarillo*: Broadening Participation Award from the Society of Integrative and Comparative Biology.
- John Coffin*: College of Arts & Sciences Research Travel Award (\$800)
- Cassie Delich*: College of Arts & Sciences Undergraduate Research Award (\$1250)
- Bryan Frenette*: College of Arts & Sciences Research Travel Award (\$800)
- Ryan Greenway*: Student Research Award from the American Society of Naturalists (ASN; \$2,000); Rosemary Grant Graduate Research Excellence Award from the Society for the Study of Evolution (SSE, \$2,140); H. Henley Haymaker Award for an Outstanding Presentation by a Graduate Student (\$500); Dr. Christopher C. Smith Evolutionary Biology Research Award (\$1,000); Alvin and RosaLee Sarachek Predoctoral Honors in Molecular Biology Travel Award (\$1,000); University Distinguished Professors Graduate Student Award (\$5,000); BGSA Research Grant (\$500); Graduate Student Council Travel Award (\$400); College of Arts & Sciences Research Travel Award (\$800)
- Rachel McNemee*: Robert J. Robel Memorial Scholarship, Kansas chapter of The Wildlife Society (\$500); College of Arts & Sciences Research Travel Award (\$745)
- Nichole Nieves*: K-INBRE Semester Scholar Award (\$6,000); NSF Research Experiences for Undergraduates Scholarship (\$6,000)
- Libby Wilson*: Graduate Student Council Travel Award (\$400); College of Arts & Sciences Research Travel Award (\$800); Phi Kappa Phi Love of Learning Award (\$500)

- 2017
- Audrey Arner*: NSF Research Experiences for Undergraduates Scholarship (\$6,000); REU Travel Grant Program of the Rocky Mountain Biological Laboratory (\$1,200); Annual Biomedical Research Conference for Minority Students Travel Grant (\$900)
- Henry Camarillo*: Sunset Zoo Science Communication Fellowship Award; Arts & Sciences Research Travel Award (\$800); Graduate Student Council Travel Award (\$400); Biology Graduate Student Association Travel Award (\$500); reduced registration and housing through the Charlotte Mangum Student Support Program of the Society of Integrative and Comparative Biology
- John Coffin*: Graduate Assistance in Areas of National Need (GAANN) Fellowship (\$122,000)
- Nicholas Barts*: K-State Graduate Research, Arts, and Discovery Scholarship (\$500); Graduate Assistance in Areas of National Need (GAANN) Fellowship (\$122,000); Sunset Zoo Science Communication Fellowship Award; Arts & Sciences Research Travel Award (\$800); Timothy R. Donoghue Graduate Scholarship (\$500); Biology Graduate Student Association Travel Award (\$500)
- Ryan Greenway*: Arts & Sciences Research Travel Award (\$800); Jim Smith Fund, Ohio Cichlid Association (\$1,000); Biology Graduate Student Association Travel Award (\$500)
- 2016
- Alexander Okamoto*: NSF Research Experiences for Undergraduates Scholarship (\$6,000)
- Bryan Frenette*: Sunset Zoo Science Communication Fellowship Award; Arts & Sciences Research Travel Scholarship Award (\$400)
- Courtney Passow*: Alvin and RosaLee Sarachek Predoctoral Honors Fellowship in Molecular Biology (\$17,000); Grand Challenges in Biology Postdoctoral Program Fellowship from the University of Minnesota (2016; \$102,000)
- Nicholas Barts*: Travel grant from the K-State Graduate Council (\$500); Reduced registration and housing through the Charlotte Mangum Student Support Program of the Society of Integrative and Comparative Biology
- Nichole Nieves*: College of Arts and Sciences Undergraduate Research Scholarship (\$1,250)
- Ryan Greenway*: Graduate Research Fellowship from the National Science Foundation (\$138,000); Sunset Zoo Science Communication Fellowship Award; Friends of Sunset Zoo Conservation Scholarship (\$2,000); Vern Parish Fund Award of the American Livebearer Association (\$1,000); Theodore Roosevelt Memorial Fund Award from the American Museum of Natural History (\$1,500); James E. Ackert Award for Outstanding Graduate Student Presentation (2016, \$1,000)
- Zachary Culumber*: James K. Langhammer Fund for Conservation Award of the American Livebearer Association (\$1,000)
- 2015
- Courtney Passow*: Scholarship to participate in the 65th Lindau Nobel Laureate Meeting, Lindau, Germany; Dr. Christopher C. Smith Evolutionary Biology Research Award (\$1,000); Sarachek Scientific Travel Award from the K-State Graduate School (\$1,000)
- Mattie Bieberly*: RCI Research Award from K-State's Office of Undergraduate Research & Creative Inquiry; SCTE-sponsored Undergraduate Research Scholarship
- Nicholas Barts*: Arts & Sciences Graduate Student Research Travel Award (\$800)

- Ryan Greenway*: Honorable Mention from the NSF Graduate Research Fellowship Program; Arts & Sciences Graduate Student Research Travel Award (\$1,000)
Zachary Culumber: Sunset Zoo Science Communication Scholarship Award
Zeke Gonzales: NSF Research Experiences for Undergraduates Scholarship (\$6,000)
- 2014 *Courtney Passow*: Research Award from the Federation of Texas Aquarium Societies (\$500)
Danielle Alba: Vern Parish Fund Award from the American Livebearer Association (\$1,500); Wilhm Zoology Teaching Assistantship Award (OSU; \$1,250)
Reid Morehouse: Outstanding Ph.D. Student Award (OSU; \$800)
Ryan Greenway: Research Award from the Federation of Texas Aquarium Societies (\$500); Ecological Genomics Symposium Travel Fellowship Award; Best poster presentation in the Life, Physical and Engineering Sciences, Lew Wentz Research Scholars Symposium \$500; Outstanding Senior in Zoology Award (OSU; \$500)
- 2013 *Cierra Keith*: Niblack Research Scholar Award (OSU; \$8,000)
Courtney Passow: Honorable Mention from the NSF Graduate Research Fellowship Program; Graduate Student Travel Fellowship from the Society of Integrative and Comparative Biology (\$2,000); Bioinformatics Scholarship for Oklahoma State University's Summer Workshop in Bioinformatics: Disentangling Entangled Genomes
Danielle Alba: Honorable Mention from the Ford Fellowship; Howard McCarley Student Research Award from the Southwestern Association of Naturalists (\$1,000)
Reid Morehouse: Clark Hubbs Best Student Poster Award from Southwestern Association of Naturalists (\$200)
Ryan Greenway: Lew Wentz Research Grant (OSU; \$4,500); Karen L. Smith Undergraduate Research Excellence Award (OSU; \$200); Outstanding Sophomore in Zoology Scholarship (OSU; \$350)
- 2012 *Cierra Keith*: Freshman Research Scholars Award (OSU; \$1,000)
Courtney Passow: Honorable Mention from the NSF Graduate Research Fellowship Program; Reduced registration and housing through the Charlotte Mangum Student Support Program of the Society of Integrative and Comparative Biology; Ecological Genomics Symposium Travel Fellowship Award (\$400); Vern Parish Fund Award from the American Livebearer Association (\$1,500); Burkes Research Award (OSU; \$800)
Danielle Alba: Howard McCarley Student Research Award from the Southwestern Association of Naturalists (\$1,000)
Maura Palacios: Honorable Mention from the Graduate Women in Science Fellowship Program
Reid Morehouse: OSU Zoology Graduate Student Society Outstanding Ph.D. Student Award; Best Student Presentation Award from at the Oklahoma American Fisheries Society Conference
- 2011 *Ryan Greenway*: Niblack Research Scholar Award (OSU; \$8,000)
Reid Morehouse: Nancy Randolph Davis Scholarship (OSU; \$1,000)
Ryan Greenway: Freshman Research Scholar Award (OSU; \$1,000)

INVITED PRESENTATIONS: DEPARTMENTAL SEMINARS AND TALKS AT PROFESSIONAL MEETINGS**2019**

- Tobler, M. (3/21/2019): Science communication in the era of “alternative facts”. 2019 Engagement Symposium “Art of Democracy”, Manhattan, KS.
- Tobler, M. (3/12/2019): Extreme environments, physiological adaptation, and the origin of species. Gordon Research Conference on Speciation, Ventura, CA, USA.
- Greenway, R.*, J. Havird & M. Tobler (1/5/2019): The role of mito-nuclear incompatibilities during ecological speciation in extremophile poeciliid fishes. Society of Integrative and Comparative Biologists Annual Meeting, Tampa, FL USA.

2018

- Tobler, M. (10/8/2018): Extreme environments, physiological adaptation, and the origin of species. School of Biological Sciences, Washington State University, Pullman, WA, USA.
- Greenway, R.*, J. L. Kelley & M. Tobler (4/22/2018): Molecular mechanisms underlying the convergent evolution of toxicity tolerance in extremophile fishes. Kansas State University Division of Biology 50th Anniversary Symposium, Manhattan, KS, USA.
- Tobler, M. (2/22/2018): Extreme environments, physiological adaptation, and the origin of species. Department of Biology, University of Texas at Arlington, Arlington, TX, USA.

2017

- Tobler, M. (12/4/2017): Extreme environments, physiological adaptation, and the origin of species. Ecology and Evolutionary Biology Interdisciplinary Program, Texas A&M University, College Station, TX, USA.
- Tobler, M. (8/1/2017): A comparative approach to understanding the physiological effects and processing of hydrogen sulfide. 2017 Biology Workshop between Department of Defense and NASA, Mountain View, CA, USA.
- Culumber, Z. W. & M. Tobler (6/25/2017): Correlated evolution of functional physiology and thermal niches in tropical freshwater fishes. Evolution 2017, Portland, OR, USA.
- Tobler, M. (2/7/2017): Mechanisms underlying life in extreme environments. School of Life Sciences, Arizona State University, Tempe, AZ, USA.

2016

- Tobler, M. (12/15/2016): Extreme environments, physiological adaptation, and the origin of species. Biology Department, University of Konstanz, Konstanz, Germany.
- Tobler, M. (10/17/2016): Extreme environments, physiological adaptation, and the origin of species. Department of Biology, University of South Dakota, Vermillion, SD, USA.
- Tobler, M. (5/3/2016): Mechanisms underlying life in extreme environments. Biology Department, University of Konstanz, Konstanz, Germany.
- Tobler, M. (2/22/2016): Mechanisms underlying life in extreme environments. Stowers Institute for Medical Research, Kansas City, MO, USA.

2015

- Tobler, M. (11/7/2015): Finding mechanisms underlying life in extreme environments. 13th Annual Ecological Genomics Symposium. Manhattan, KS, USA.

- Tobler, M. (6/13/2015): Sulfide spring fishes in Mexico and beyond. 2a Jornada de la Ciencia y Desarrollo Sustentable, Calnali, Hidalgo, Mexico.

2014

- Tobler, M. (11/6/2014): Using genomics tools to elucidate mechanisms of adaptation to extreme environments. Simposio Genomica de Peces de Agua Dulce de Mexico, XIV Congreso Nacional de Ictiologia, Morelia Mexico.
- Tobler, M. (11/3/2014): Sulfide spring poeciliids as models in ecology and evolution. IV International Symposium on Viviparous Fishes, Morelia, Mexico.
- Tobler, M. (2/23/2014): Patterns, processes, and consequences of biological diversification: insights from extreme habitats. Biology Program, University of British Columbia, Vancouver, Canada.

2013

- Tobler, M. (12/12/2013): Patterns, processes, and consequences of biological diversification: insights from extreme habitats. Division of Biology, Kansas State University, Manhattan, KS, USA.
- Tobler, M. (11/9/2013): Life in extreme environments as a model in biology. Sigma Xi Student Research Conference, Research Triangle Park, NC, USA.
- Tobler, M. (10/15/2013): Studying life in extreme environments (or how you can make the most of your college experience). Scholars Day, Oklahoma State University, Stillwater, OK, USA.
- Tobler, M. (2/22/2013): Patterns, processes, and consequences of biological diversification: insights from extreme habitats. Research Week, Oklahoma State University, Stillwater, OK, USA.

2012

- Tobler, M. (10/18/2012): Patterns, processes, and consequences of biological diversification: insights from extreme habitats. Department of Biology, Brigham Young University, Provo, UT, USA.
- Tobler, M. (9/7/2012): Patterns, processes, and consequences of biological diversification: insights from extreme habitats. Department of Biological Sciences, University of Southern Mississippi, Hattiesburg, MS, USA.
- Tobler, M. (3/15/2012): Cuevas, sulfuro y peces: Entendiendo la maravillosa biodiversidad de Tabasco. Division Academica de Ciencias Biological, Universidad Juarez Autonoma de Tabasco, Villahermosa, Mexico.
- Tobler, M. (3/9/2012): Extremophile fishes as models in ecology and evolution. School of Natural Resources, University of Missouri, Columbia, MO, USA.
- Tobler, M. (2/15/2012): Patterns and processes in biological diversification: insights from extreme habitats. Department of Biology, Baylor University, Waco, TX, USA.

2011

- Tobler, M. (11/11/2011): Patterns and processes in biological diversification: insights from extreme habitats. Division of Biology, Kansas State University, Manhattan, KS, USA.
- Tobler, M. (10/8/2011): A natural history of the vanishing Mexican desert fishes of the genus *Characodon*. 2nd International Meeting of the Goodeid Working Group, Pont l'Évêque, France.

2010

- Tobler, M. (6/4/2010): Patterns and processes in biological diversification. Department of Zoology, Oklahoma State University, Stillwater, OK, USA.
- Tobler, M. (2/24/2010): Living in extreme environments: evolutionary and ecological consequences. Department of Biological Sciences, Fordham University, Bronx, NY, USA.
- Tobler, M. (2/15/2010): Patterns and processes in biological diversification: insights from extreme environments. Department of Wildlife & Fisheries Sciences, Texas A&M University, College Station, TX, USA.
- Tobler, M. (2/15/2010): Adaptation and speciation in extreme environments. Section of Integrative Biology, University of Texas at Austin, Austin, TX, USA.

2009

- Tobler, M. (11/23/2009): Adaptation and speciation in extreme environments. Department of Biological Sciences, University of Toronto Scarborough, Toronto, Canada.
- Tobler, M. (9/11/2009): Living in extreme environments: evolutionary and ecological consequences. Department of Ecology and Evolution, University of Tennessee Knoxville, Knoxville, TN, USA.
- Tobler, M. (4/8/2009): A fishy tale from a stinky cave: adaptation and speciation in extreme environments. Department of Biology, Baylor University, Waco, TX, USA.
- Tobler, M. (1/8/2009): Living in extreme environments: ecological and evolutionary consequences. Marine Science Institute, University of Texas at Austin, Port Aransas, TX, USA.

2008 and prior

- Tobler, M. (3/3/2008): The evolutionary ecology of *Poecilia mexicana* in extreme environments. Biodiversity Program, El Zamorano University, Honduras.
- Tobler, M. (10/22/2007): Life in extreme environments: ecological and evolutionary consequences. Section of Integrative Biology, University of Texas at Austin, Austin, TX, USA.
- Tobler, M. (10/9/2007): Ecological differentiation and reproductive isolation along abiotic environmental gradients in *Poecilia mexicana*. Department of Zoology, University of Oklahoma, Norman, OK, USA.
- Tobler, M. (2/22/2007): Adaptive diversification in extreme habitats? The ecology and evolution of extremophile poeciliid fishes. Department of Biological Sciences, Sam Houston State University, Huntsville, TX, USA.
- Tobler, M. (10/19/2006): Darkness, hypoxia, and hydrogen sulfide: the ecology of extremophile poeciliid fishes. Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX, USA.
- Tobler, M. (12/21/2005): How and why to survive in a toxic, sulfurous habitat: evidence from a Mexican fish". Zoological Institute, University of Zürich, Zürich, Switzerland.
- Tobler, M. (1/10/2005): Drowning the Red Queen? Sex and parasites in a gynogenetic mating system of fishes. Department of Behavioral Ecology, University of Bern, Bern, Switzerland.
- Tobler, M. (12/22/2004): Drowning the Red Queen? Sex and parasites in a gynogenetic mating system. Zoological Institute, University of Zürich, Zürich, Switzerland.

CONTRIBUTED PRESENTATIONS AT PROFESSIONAL MEETINGS: TALKS AND POSTERS

2019

- Hancock S. & M. Tobler (3/24/2019): Lessons from developing the Kansas Science Communication Initiative. SciComm 2019, Manhattan, KS, USA.
- Tobler, M. (3/24/2019): Science communication in the era of “alternative facts”. SciComm 2019, Manhattan, KS, USA.
- Barts, N.*, R. Greenway*, N. Busch, B. Steiger & M. Tobler (3/23/2019): Getting extreme: teaching about extremophiles in K-12 classrooms. SciComm 2019, Manhattan, KS, USA.
- Tobler, M. & Z. Culumber (1/6/2019): Parent-offspring conflict, ecology, and life history diversification of livebearing fishes. Society of Integrative and Comparative Biologists Annual Meeting, Tampa, FL, USA (talk).
- Nieves, N.**, M. Tobler & N. Barts* (1/6/2019): Reactive oxygen species and their role in H₂S toxicity in *Poecilia mexicana*. Society of Integrative and Comparative Biologists Annual Meeting, Tampa, FL, USA (poster).
- Coffin, J.*, J. L. Kelley, P. Jeyasingh & M. Tobler (1/5/2019): Responses of fishes to heavy metal contaminated extreme environments. Society of Integrative and Comparative Biologists Annual Meeting, Tampa, FL, USA (talk).
- McNemee, R.**, R. Greenway* & M. Tobler (1/5/2019): Genital evolution in livebearing fishes of caves and toxic springs. Society of Integrative and Comparative Biologists Annual Meeting, Tampa, FL, USA (poster).
- Wilson, E.*, N. Barts*, J. L. Coffin*, J. L. Kelley, M. Tobler & R. Greenway* (1/5/2019): Comparative analyses of gene expression responses to variation in salinity across distantly related fish species. Society of Integrative and Comparative Biologists Annual Meeting, Tampa, FL, USA (poster).
- Frenette, B.*, K. Gido & M. Tobler (1/4/2019): Metabolic physiology of minnows exposed to stable and variable thermal environments. Society of Integrative and Comparative Biologists Annual Meeting, Tampa, FL, USA (talk).
- Camarillo, H.* & M. Tobler (1/4/2019): Functional consequences of morphological variation between locally adapted populations. Society of Integrative and Comparative Biologists Annual Meeting, Tampa, FL, USA (talk).

2018

- Camarillo, H.* & M. Tobler (11/10/2018): Functional consequences of morphological variation in sulfide spring fishes. 2018 Southeastern Regional SICB Meeting, Clemson, SC, USA (poster).
- Greenway, R.* & M. Tobler (7/24/2018): Multiple reproductive isolating barriers contribute to early stages of replicated cases of ecological speciation with gene flow. American Genetic Association President Symposium on Origins of Adaptive Radiation, Waimea, HI, USA.
- Frenette, B.*, L. Bruckerhoff, M. Tobler & K. Gido (5/18/2018): Temperature effects on performance and physiology of two prairie stream minnows. 27th Annual Konza Prairie LTER Workshop, Kansas State University (talk).
- Barts, N.*, S. Arndt & M. Tobler (3/18/2018): Regulators or conformers? Mechanisms of sulfide tolerance in an extremophile fish. Kansas State University Graduate Research Forum (talk).

- Barts, N.*, G. A. Keithline**, N. Nieves** & M. Tobler (3/10/2018): Metabolic physiology of extremophile fish inhabiting hydrogen sulfide-rich environments. 44th Annual Graduate Student Research Forum, Kansas State University Division of Biology (talk).
- Frenette, B.*, L. Bruckerhoff, M. Tobler & K. Gido (3/10/2018): Temperature effects on performance and physiology of two prairie stream minnows. 44th Annual Graduate Student Research Forum, Kansas State University Division of Biology (talk).
- Greenway, R.*, J. L. Kelley & M. Tobler (3/10/2018): Molecular mechanisms underlying the convergent evolution of toxicity tolerance in extremophile fishes. 44th Annual Graduate Student Research Forum, Kansas State University Division of Biology (talk).
- Frenette, B.*, L. Bruckerhoff, M. Tobler & K. Gido (2/12/2018): Temperature effects on performance and physiology of two prairie stream minnows. Kansas Natural Resources Conference, Manhattan, KS (talk).
- Camarillo, H.* & M. Tobler (1/6/2018): Functional consequences of morphological variation in sulfide spring fishes. Society of Integrative and Comparative Biologists Annual Meeting, San Francisco, CA, USA (poster).
- Greenway, R.* & M. Tobler (1/6/2018): Transcriptomic analyses of convergent evolution in sulfide spring fishes. Conference of the American Society of Naturalists, Pacific Grove, CA, USA (talk).
- Barts, N.*, N. Nieves** & M. Tobler (1/5/2018): Metabolic physiology of extremophile fish inhabiting hydrogen sulfide-rich environments. Society of Integrative and Comparative Biologists Annual Meeting, San Francisco, CA, USA (talk).
- Barts, N.* & M. Tobler (1/4/2018): Regulators or conformers? Mechanisms of sulfide tolerance in an extremophile fish. Society of Integrative and Comparative Biologists Annual Meeting, San Francisco, CA, USA (poster).

2017

- Kelley, J. L., C. N. Passow* & M. Tobler (6/26/2017): Gene regulation and the repeated evolution of hydrogen sulfide loving fish. Evolution 2017, Portland, OR, USA (talk).
- Brown, A. P., R. Greenway*, S. Morgan**, C. Quackenbush, L. Giordani, L. Arias-Rodriguez, M. Tobler & J. L. Kelley (6/25/2017): Genome-scale data reveals that endemic *Poecilia* populations from small sulfidic springs display no evidence of inbreeding. Evolution 2017, Portland, OR, USA (talk).
- Passow, C. N.*, J. L. Kelley & M. Tobler (6/24/2017): Complexities of gene expression patterns in natural populations of an extremophile fish (*Poecilia mexicana*, Poeciliidae). Evolution 2017, Portland, OR, USA (talk).
- Henpita, C. R., M. Tobler & J. H. Shaw (4/23/2017): Enhanced spare respiratory capacity in extremophile fish following exposure to hydrogen sulfide. Experimental Biology 2017. Chicago, IL, USA (poster).
- Greenway, R.*, J. L. Kelley & M. Tobler (1/5/2017): OXPHOS adaptation and ecological speciation in toxic sulfide springs. Society of Integrative and Comparative Biologists Annual Meeting, New Orleans, LA, USA (talk).
- Tobler, M., N. Barts*, C. N. Passow*, R. Greenway* & J. L. Kelley (1/8/2017): Evolution and expression of oxygen transport genes in replicated lineages of sulfide spring fishes. Society of Integrative and Comparative Biologists Annual Meeting, New Orleans, LA, USA (talk).

- Barts, N.*, G. A. Keithline** & M. Tobler (1/7/2017): The aerobic scope of an extremophile fish and its significance for metabolic physiology in hydrogen sulfide environments. Society of Integrative and Comparative Biologists Annual Meeting, New Orleans, LA, USA (poster).
- Culumber, Z. W., M. E. Gifford & M. Tobler (1/5/2017): Diversification on the macroevolutionary landscape following the loss of lungs in caudate amphibians. Society of Integrative and Comparative Biologists Annual Meeting, New Orleans, LA, USA (talk).

2016

- Brown, A. P., R. Greenway*, M. Tobler & J. L. Kelley (10/29/2016): Genome-scale data reveals that endemic *Poecilia* populations from small sulfidic springs are more diverse and less inbred than populations undergoing range reduction. 14th Annual Ecological Genomics Symposium. Kansas City, MO, USA (talk).
- Barts, N.*, C. Passow*, R. Greenway*, J. L. Kelley & M. Tobler (10/29/2016): Oxygen transport in hydrogen sulfide-rich environments: myoglobin and hemoglobin gene expression and evolution. 14th Annual Ecological Genomics Symposium. Kansas City, MO, USA (poster).
- Greenway, R., J. L. Kelley & M. Tobler (10/29/2016): OXPHOS evolution and ecological speciation in toxic sulfide springs. 14th Annual Ecological Genomics Symposium. Kansas City, MO, USA (poster).
- Kelley, J. L., A. P. Brown, C. Passow*, L. Arias-Rodriguez & M. Tobler (7/5/2016): Transcriptional changes and the genomic basis of adaptation to an extreme environment. Society for Molecular Biology and Evolution, Gold Coast, Australia (talk).
- Kelley, J. L., A. P. Brown, M.-C. Yee, L. Arias-Rodriguez & M. Tobler (2/10/2016): Biomedical insights from transcriptome sequencing of hydrogen sulfide adapted fish. Advances in Genome Biotechnology Annual Meeting, Orlando, FL, USA (poster).
- Tobler, M. & J. L. Kelley (1/5/2015): Using comparative transcriptomics to identify mechanisms of adaptation in livebearing fishes inhabiting toxic, hydrogen sulfide rich springs. Society of Integrative and Comparative Biologists Annual Meeting, Portland, OR, USA (talk).
- Culumber, Z. W. & M. Tobler (1/5/2015): Evolution of the thermal niche: functional physiology and gene expression across a genus of livebearing fishes (Poeciliidae: *Xiphophorus*). Society of Integrative and Comparative Biologists Annual Meeting, Portland, OR, USA (poster).
- Culumber, Z. W. & M. Tobler (1/4/2015): Morphological diversification in livebearing fishes of the family Poeciliidae. Society of Integrative and Comparative Biologists Annual Meeting, Portland, OR, USA (poster).

2015

- Culumber, Z. W. & M. Tobler (11/7/2015): Evolution of the thermal niche: functional physiology and genetics across a genus of livebearing fishes (Poeciliidae: *Xiphophorus*). 13th Annual Ecological Genomics Symposium. Manhattan, KS, USA (poster).
- Passow, C.*, J. L. Kelley & M. Tobler (11/7/2015): Transcriptomic responses to hydrogen sulfide exposure in replicated susceptible and tolerant populations of *Poecilia mexicana*. 13th Annual Ecological Genomics Symposium. Manhattan, KS, USA (poster).
- Greenway, R.*, J. L. Kelley & M. Tobler (11/7/2015): Testing for convergent evolution across disparate fish lineages adapting to toxic hydrogen sulfide. 13th Annual Ecological Genomics Symposium. Manhattan, KS, USA (poster).
- Brown, A. P., L. Arias-Rodriguez, M.-C. Yee, C. Bustamante, M. Tobler & J. L. Kelley (11/7/2015): Distinct pathways to adaptation to extremely sulfidic environments in closely

- related populations of fish. 13th Annual Ecological Genomics Symposium. Manhattan, KS, USA (poster).
- Passow, C.N.*, J. L. Kelley & M. Tobler (7/14/2015): Comparative transcriptomic analysis among four divergent ecotypes of an extremophile fish. Ecological and Evolutionary Genomics Gordon Research Conference, Biddeford, ME, USA (poster).
 - Shaw, J. H., C. R. Henpita & M. Tobler (3/29/2015): H₂S-tolerant fish differentially express genes and modify mitochondrial function to maintain H₂S homeostasis. Experimental Biology 2015. Boston, MA, USA (poster)
 - Passow, C.N.*, J. L. Kelley & M. Tobler (1/5/2015): Comparative transcriptomic analysis across four divergent ecotypes of an extremophile fish (*Poecilia mexicana*). Society of Integrative and Comparative Biologists Annual Meeting, West Palm Beach, FL, USA (talk).

2014

- Passow, C.N.*, J. L. Kelley & M. Tobler (10/31/2014): Comparative transcriptomic analysis across four divergent ecotypes of an extremophile fish (*Poecilia mexicana*). 12th Annual Ecological Genomics Symposium, Kansas City, MO (poster).
- Alba, D. M.*, L. Arias-Rodriguez, M. Tobler & P. D. Jeyasingh (8/12/2014): Ecological implications of geographic and temporal variation in excretion and somatic stoichiometry in extremophile *Poecilia mexicana*. Ecological Society of America Annual Meeting, Sacramento, CA (talk).
- Alba, D. M.*, L. Arias-Rodriguez, M. Tobler & P. D. Jeyasingh (4/18/2014): Variation in somatic stoichiometry in extremophile mollies (*Poecilia mexicana*): evolution or plasticity? 61st Annual Meeting of the Southwestern Association of Naturalists, Stillwater, OK (talk).
- Morehouse, R.* & M. Tobler (4/17/2014): Crayfish of Oklahoma: Distributions, Ecology, and Evolution. 61st Annual Meeting of the Southwestern Association of Naturalists, Stillwater, OK (talk).
- Palacios, M.*, L. Arias-Rodriguez, M. Mateos, G. Voelker & M. Tobler (3/22/2014): Diversity and evolutionary patterns of mollies (Poeciliidae: *Poecilia*). 15th Ecological Integration Symposium, College Station, TX (poster).
- Alba, D. M.*, P. D. Jeyasingh & M. Tobler (1/5/2014): Patterns and ecological implications of intraspecific stoichiometric variation in the livebearing fish, *Poecilia mexicana*. Society of Integrative and Comparative Biologists Annual Meeting, Austin, TX (talk).
- Passow, C.N.* & M. Tobler (1/4/2014): Reduction of energetic demands through modifications of body size and mass-specific metabolic rates in locally adapted extremophile fish. Society of Integrative and Comparative Biologists Annual Meeting, Austin, TX (talk).
- Greenway, R.** & M. Tobler (1/4/2014): *Xiphophorus hellerii* in toxic sulfide springs: patterns of adaptation like in other sulfide spring poeciliids? Society of Integrative and Comparative Biologists Annual Meeting, Austin, TX (poster).

2013

- Morehouse, R.* & M. Tobler (9/10/2013): Partitioning of food resources in syntopic crayfishes. Annual Meeting of the American Fisheries Society, Little Rock, AR (talk).
- Alba, D.*, P. Jeyasingh & M. Tobler (9/10/2013): Ecological implications of intraspecific stoichiometric variation. Annual Meeting of the American Fisheries Society, Little Rock, AR (talk).

- Kelley, J., C. Passow*, M.-C. Yee, L. Arias-Rodriguez, C. D. Bustamante & M. Tobler (7/10/2013): Genomic basis of adaptation in replicated extreme environments. Annual Meeting of the Society for Molecular Biology and Evolution, Chicago, IL, USA (talk).
- Keith, C.***, Z. Culumber & M. Tobler (6/23/2013): The maintenance of a genetic polymorphism in *Xiphophorus variatus*: connections between coloration patterns and physiology? Annual Meeting of the Society for the Study of Evolution, Snowbird, UT, USA (poster).
- Tobler, M., C. Passow*, L. Arias-Rodriguez, M.-C. Yee, C. Bustamante, M. Pfenninger, M. Plath & J. Kelley (6/23/2013): Elucidating the genomic underpinnings of replicated adaptation to extreme environments: signatures of selection in coding genes. Annual Meeting of the Society for the Study of Evolution, Snowbird, UT, USA (talk).
- Tobler, M., C. Passow*, L. Arias-Rodriguez, M.-C. Yee, C. Bustamante & J. Kelley (6/22/2013): Elucidating the genomic underpinnings of replicated adaptation to extreme environments: variation in gene expression patterns. Annual Meeting of the Society for the Study of Evolution, Snowbird, UT, USA (poster).
- Alba, D.*, P. Jeyasingh & M. Tobler (4/5/2013): Ecological implications of intraspecific stoichiometric variation. 60th Annual Meeting of the Southwestern Association of Naturalists, Lake Charles, LA (talk).
- Doumas, L.T.*, C. Keith**, and M. Tobler (4/5/2013): Heritability vs. flexibility, how plastic are the physiological mechanisms underlying behavior? 60th Annual Meeting of the Southwestern Association of Naturalists, Lake Charles, LA (poster).
- Morehouse, R.* & M. Tobler (4/5/2013): Do syntopic crayfish species partition food resources? Insights from stable isotopes and stomach contents. 60th Annual Meeting of the Southwestern Association of Naturalists, Lake Charles, LA (talk).
- Morehouse, R.* & M. Tobler (4/5/2013): Crayfishes of Oklahoma: Identification, distribution, and ecology. 60th Annual Meeting of the Southwestern Association of Naturalists, Lake Charles, LA (poster).
- Morehouse, R.* & M. Tobler (3/15/2013): Do syntopic crayfish species partition food resources? Insights from stable isotopes and stomach contents. Oklahoma State AFS Student Colloquium, Lake Texoma, OK (talk).
- Passow, C.N.*, J. L. Kelley, M. Plath, L. Arias-Rodriguez, M.-C. Yee & M. Tobler (1/5/2013): Characterization of the *Poecilia mexicana* transcriptome: a model for adaptation and speciation research. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA, USA (poster).

2012

- Palacios Mejia, M.*, M. Tobler, G. Voelker, A.A. Gonzalez-Diaz, R. Rodiles-Hernandez & M. Mateos (11/1/2012): Patronos filogeograficos de *Poecilia butleri* y *Poecilia sphenops* sobre su distribucion en la costa Pacifica de Mexico. XIII Congreso Nacional de Ictiologia y 1er Simposio Latinoamericano de Ictiologia, San Cristobal de las Casas, Chiapas, Mexico (talk).
- Passow, C.N.*, J. L. Kelley, M. Plath, L. Arias Rodriguez, M.C. Yee & M. Tobler (10/27/2012): Characterization of the *Poecilia mexicana* transcriptome: a model for adaptation and speciation research. Ecological Genomics Symposium, Kansas City, MO, USA (poster).
- Kelley, J., C. Passow*, M.C. Yee, C. Bustamante & M. Tobler (2012): Hydrogen sulfide drives gene expression patterns along replicated environmental gradients. Ecological Genomics Symposium, Kansas City, MO, USA (poster).

- Morehouse, R.L.* & M. Tobler (10/24/2012): Crayfishes of Oklahoma: Identification, distribution and ecology. Annual Meeting of the Oklahoma Chapter of the American Fisheries Society, Stillwater, OK, USA (talk).
- Husemann, M.*, C. McCauley, M. Tobler, B. Ding & P.D. Danley (9/23/2012): Population and species divergence in Lake Malawi rock-dwelling cichlids. DZG Conference, Konstanz, Germany (poster).
- Husemann, M.*, C. McCauley, M. Tobler, B. Ding & P.D. Danley (7/10/2012): Morphological diversification in closely related Lake Malawi cichlids. Joint Congress on Evolutionary Biology, Ottawa, Canada (talk).
- Palacios Mejia, M.*, M. Tobler & M. Mateos (7/8/2012): Multilocus phylogeny and phylogeographic patterns in the freshwater fishes from the subgenus *Mollienesia* (*Poecilia*: Poeciliidae: Cyprinodontiformes). Joint Congress on Evolutionary Biology, Ottawa, Canada (talk).
- Hamontree, S., J. L. Sanchez, J. L., B. Boutwell, G. P. Garrett, R. H. Lewis, A. N. Ragan, M. Tobler, & R. Deaton (2/10/2012): Reproductive investment of two congeners and their putative hybrids in west Texas. Annual Meeting of the Texas Chapter of the American Fisheries Society, Galveston, TX, USA (poster).
- Roach, K. A., M. Tobler & K. O. Winemiller (2/10/2012): Hydrogen sulfide, bacteria, and fish: a unique food chain supported by chemical-based energy. Annual Meeting of the Texas Chapter of the American Fisheries Society, Galveston, TX, USA (talk).
- Tobler, M. (2/8/2012): Poeciliid fishes as models in ecology and evolution. Annual Meeting of the Oklahoma Chapter of the American Fisheries Society, Stillwater, OK, USA (talk).

2011

- Tobler, M., C. Passow* & J. Kelley (11/5/2011): Elucidating the genomic changes underlying adaptation and speciation in extreme environments. Ecological Genomics Symposium, Kansas City, MO, USA (talk).
- Tobler, M. (10/29/2011): Elucidating the genetic basis of ecological speciation: a role for MHC genes? 38th Annual Great Plains Limnology Conference & 4th Triennial Oklahoma-Texas Aquatic Research Group Meeting, OU Biological Station, OK, USA (talk).
- Tobler, M. (6/18/2011): Adaptation and speciation in extreme environments: the case of sulfide spring fishes. Annual Meeting of the Society for the Study of Evolution, Norman, OK, USA (talk).
- Tobler, M. & E. Carson (4/22/2011): Hybridization and phenotypic diversification in Cuatro Ciénegas pupfishes. 58th Annual Meeting of the Southwestern Association of Naturalists, Tyler, TX, USA (talk).

2010

- Tobler, M (1/22/2010): Ecology and evolution of the Amazon molly. Texas Chapter of the American Fisheries Society Annual Meeting, Athens, TX, USA (talk).

2009

- Tobler, M. (7/26/2009): Natural and sexual selection against migrants in sulfide spring and cave poeciliids. Joint Meeting of Ichthyologists and Herpetologists, Portland, OR, USA (talk).

2008 and prior

- Tobler, M. (10/26/2008): A fishy tale from a stinky cave: population differentiation in *Poecilia mexicana*. 35th Annual Great Plains Limnology Conference & 3rd Triennial Oklahoma-Texas Aquatic Research Group Meeting, OU Biological Station, OK, USA (talk).
- Tobler, M. (7/16/2007): Ecological differentiation and reproductive isolation along environmental gradients in *Poecilia mexicana* (Poeciliidae, Teleostei)". Joint Meeting of Ichthyologists and Herpetologists, St. Louis, MO, USA (talk).
- Tobler, M. & I. Schlupp (7/15/2007): Ecological factors influencing the stability of a gynogenetic complex (*Poecilia formosa* and *P. latipinna*, Poeciliidae): the role of parasites. Joint Meeting of Ichthyologists and Herpetologists, St. Louis, MO, USA (poster).
- Tobler, M. & I. Schlupp (4/15/2006): Drowning the Red Queen? Sex and parasites in a gynogenetic mating system. 53rd Annual Meeting of the Southwestern Association of Naturalists, Colima, Mexico (talk).
- Tobler, M. & I. Schlupp (3/4/2006): Drowning the Red Queen? Sex and parasites in a gynogenetic mating system. The Ecology & Evolution Meeting at Lake Texoma 2006, OU Biological Station, OK, USA (talk).
- Tobler, M. & I. Schlupp (12/4/2005): Parasites in a gynogenetic complex of fish (*Poecilia formosa* & *P. latipinna*)". 2nd European Conference of Poeciliid Biologists, Trondheim, Norway (talk).
- Tobler, M. & I. Schlupp (11/19/2005): Parasites in a gynogenetic complex of fish (*Poecilia formosa* & *P. latipinna*). 37th Annual Meeting of the Desert Fishes Council, Cuatro Ciénegas, Mexico (talk).
- Tobler, M. (3/31/2005): Does living in an extreme habitat pay off? Comparative studies in the natural habitats of a poeciliid fish (*Poecilia mexicana*)". Graduate Student Poster Session, University of Oklahoma, OK, USA (poster).
- Tobler, M. & I. Schlupp (7/15/2004): Asexual mollies, *Poecilia formosa* (Poeciliidae) reject parasitized males. 10th International Behavioral Ecology Congress, Jyväskylä, Finland (talk).
- Tobler, M. (6/11/2004): Was können Beobachtungen im Aquarium wirklich über das natürliche Verhalten aussagen? Freiland- und Aquarienbeobachtungen an Breitflossenkärpflingen (*Poecilia latipinna*) und ihren Sexualparasiten, den Amazonenkärpflingen (*P. formosa*)". Symposium Verhalten der Aquarienfische, Düsseldorf, Germany (talk).

SERVICE**Editorial Board Member**

2017-present Associate Editor, Royal Society Open Science

2014-present Board of Reviewing Editors, Frontiers in Ecology and Evolution

Peer Reviewer

Granting Institutions: National Science Foundation (IOS: *ad hoc* and panel reviewer; DEB: *ad hoc* reviewer; CAREER: *ad hoc* reviewer), French National Research Agency, NERC Standard Grant (Natural Environment Research Council, UK), Netherlands Organization for Scientific Research, Texas Academy of Science, Southwestern Association of Naturalists, Sigma Delta Epsilon (Graduate Women in Science), American Livebearer Association

Journals: Acta Ethologica, American Midland Naturalist, Animal Behavior, Animal Conservation, Aquatic Ecology, Axios, Behavioral Ecology, Behavioral Ecology & Sociobiology, Behavioral Processes, Biological Journal of the Linnean Society, Biology Letters, BMC Biology, BMC Genomics, BMC Evolutionary Biology, Canadian Journal of Zoology, Conservation Biology, Copeia, Current Zoology, Ecological Genetics and Genomics, Ecology, Ecology Letters, Environmental Biology of Fishes, Evolution, Fish & Fisheries, Florida Entomologist, Heredity,

Journal of Biogeography, Journal of Evolutionary Biology, Journal of Fish Biology, Molecular Ecology, Molecular Phylogenetics and Evolution, Naturwissenschaften, Pan-American Journal of Aquatic Sciences, PLOS ONE, Proceedings of the Royal Society B, Science Advances, Science, Science Advances, Science of Nature, Southwestern Naturalist.

Agencies: U.S. Fish and Wildlife Service (Endangered Species Proposal)

Departmental Service

2019-present Chair of the Biology PR Committee (K-State)
 2017-present Chair of the Biology Seminar Committee (K-State)
 2017-present Faculty advisor of the Biology Graduate Student Association (K-State)
 2016-present Graduate Recruitment Committee (K-State)
 2015-2018 K-State Biology REU Selection Committee (K-State)
 2015-2016 EEB Strategic Planning Committee (K-State)
 2015-2016 EEB Seminar Committee (K-State)
 2012-2014 Personnel Committee (OSU)
 2012 Search Committee (Assistant Professor in Evolutionary Ecology, OSU)
 2011-2014 Faculty advisor for Zoology Graduate Student Society (OSU)
 2010-2014 Department of Zoology Webmaster (OSU)

University Service

2018 Organizer of Biology's 50th Anniversary Symposium
 2017 College of Arts & Sciences Review Committee of the Director of the Division of Biology (K-State)
 2013-2014 Alternate member of the Institutional Animal Care and Use Committee (OSU)
 2013 Search Committee (Assistant Provost for Innovative Education, OSU)
 2013 Search Committee (Director for Scholar Development & Recognition, OSU)
 2011-2014 Academic Integrity Facilitator (OSU)

Public Service

2017-present Board of Directors, American Livebearer Association
 2010-present C.A.R.E.S. Preservation Program Specialist (coordinator for livebearing fishes)
 2003 Advisor in the revision of the animal welfare laws in Switzerland. Committee for animal welfare in fishes, Swiss Federal Veterinary Office, Berne, Switzerland

OUTREACH AND PUBLIC ENGAGEMENT

Science Communication Education and Platform Development

2017-present Co-founder and steering committee member of the "*Kansas Science Communication Initiative (K-SCI)*", which seeks to engage communities in understanding, promoting, and participating in science and research
 2017-present Co-organizer of the "*K-State Science Communication Week*", featuring professional development and public engagement events
 2016-present Co-founder and co-organizer of "*Science on Tap*", a community outreach program held at the Tallgrass Taphouse, Manhattan, KS
 2015-present Co-founder and co-organizer of the "*Science Communication Fellowship Program*" in collaboration with Sunset Zoo, Manhattan, KS (separate workshop series offered for undergraduates, graduate students, and faculty)

Collaboration with Media Producers

- 2016 On-site advisor for the BBC Natural History Unit (London, UK) for a television documentary series “*Mexico: Earth’s Festival of Life*”
- 2014 On-site advisor for GEO Magazine (Hamburg, Germany) for a feature article on extreme environments (“*In der Giftküche der Evolution*”)
- 2013 TV interview “*Aquarium’s location causes concerns*”, KOKH FOX 25, Oklahoma City
- 2011-2012 Advisor for the BBC Natural History Unit (London, UK) for the television documentary series “*Wonders of Life*”
- 2011 Advisor for Enslow Publishers (Berkeley Heights, NJ) for the children’s book “*Vampire Bats, Giant Insects, and Other Mysterious Animals of the Darkest Caves*”
- 2009-2010 On-site advisor for Mona Lisa Productions (Lyon, France) for the television documentary series “*Life in Hell*”

Selected Public Engagement Activities

- 2017-present Columnist for Livebearers, the journal of the American Livebearer Association (*Just Ask a Scientist*)
- 2015-2018 Participant at the annual “*Family STEM Night*” organized by Unified School District 383 (Manhattan-Ogden)
- 2013 Judge for the Sigma Xi Student Research Showcase (undergraduate research at OSU)
- 2011 Judge for the Junior Science & Humanities Symposium (high school science fair in Oklahoma)
- 2011 OSU Grandparent University (a science oriented summer camp for kids and their grandparents)
- 2008 Instructor for infusing inquiry into elementary school science (professional development workshop for elementary school teachers), Sam Noble Oklahoma Museum of Natural History
- 2002-present Public speaker for various citizen and amateur naturalist groups. Select venues in recent years have included: Talk20MHK (Manhattan, KS), Science on Tap (Lawrence, KS), International Livebearer Weekend of Poecilia Scandinavia (Lyngby, Denmark), 10. Bundeskongress des Österreichischen Verband für Vivaristik und Ökologie (Retz, Austria), Verein der Freunde des Haus des Meeres (Vienna, Austria), Science on Tap (Manhattan, KS), Ohio Cichlid Extravaganza (Cincinnati, OH), Aquapalooza (Oklahoma City, OK), Oklahoma Aquarium Association (Stillwater, OK), C.A.F.E. Fish Club (Columbus, OH), American Livebearer Association Convention (Cleveland, OH), Federation of Texas Aquarium Societies (Oklahoma City, OK), American Cichlid Association Convention (Cincinnati, OH), American Livebearer Association Convention (Indianapolis, IN), College Station Aquarium Club (College Station, TX), OKC Aquarium Association (Oklahoma City, OK), Annual Meeting of the German Cichlid Association (Kaiseraugst, Switzerland), Datz-Forum (Stuttgart & Friedrichshafen, Germany)
- 2000-2013 Regular author of articles for popular scientific periodicals in German, English, and Spanish. A list of contributions can be found at:
<http://sulfide-life.info/publications/publications-in-popular-scientific-media/>