

## Preserving Biodiversity under Climate Change

### Selected Publications

- 2021 Saatchi S, Longo M, Xu L, Yang Y, Abe H, Andre M, Aukema JE, Carvalhais N, Cadillo-Quiroz H, Cerbu GA, Chernela JM, Covey K, Sanchez-Clavijo LM, Cubillos IV, Davies SJ, De Sy V, De Vleeschouwer F, Duque A, Durieux AMS, Fernandes K, Fernandez LE, Gammino V, Garrity DP, Gibbs DA, Gibbon L, Gowae GY, Hansen M, Harris NL, Healey SP, Hilton RG, Johnson CM, Kankeu RS, Laporte-Goetz NT, Lee H, Lovejoy T, Lowman M, Lumbuenamo R, Malhi T, Martinez JMA, Nobre C, Pellegrini A, Radachowsky J, Roman F, Russell D, Sheil D, Smith TB, Spencer RGM, Stolle F, Tata HL, del Castillo Torres D, Tshimanga RM, Vargas R, Venter M, West J, Widayati A, Wilson SN, Brumby S, Elmore AC. Detecting Vulnerability of Humid Tropical Forests to Multiple Stressors. *One Earth* 4, 988–1003. <https://doi.org/10.1016/j.oneear.2021.06.002>.
- 2021 Dongmo KMA, Hanna R, Smith TB, Fiaboe KKM, Fomena A, Bonebrake T. Local adaptation in thermal tolerance for a tropical butterfly across ecotone and rainforest habitats. *Biology Open* 2021;10(4):bio058619. <https://doi.org/10.1242/bio.058619>.
- 2021 Bay R, Karp D, Saracco J, Anderegg W, Frishkoff L, Wiedenfeld D, Smith TB, Ruegg K. Genetic variation reveals individual-level climate tracking across the annual cycle of a migratory bird. *Ecology Letters* (2021) 24: 819–828. <http://dx.doi.org/10.1111/ele.13706>.
- 2021 Smith TB, Fuller TL, Zhen Y, Zaunbrecher V, Thomassen HA, Njabo K, Anthony NM, Gonder MK, Buermann W, Larison B, Ruegg K, Harrigan RJ. Genomic vulnerability and socio-economic threats under climate change in an African rainforest bird. *Evolutionary Applications* 2021;00:1-9. <https://doi.org/10.1111/eva.13193>.
- 2020 Miller C, Tasse Taboue G, Fokam E, Morgan K, Zhen Y, Harrigan R, Underwood VL, Ruegg K, Sesink Clee P, Ntie S, Mickala P, Mboumba J, Fuller T, Zimkus B, Smith TB, Anthony N. Environmental variation predicts patterns of phenotypic and genomic variation in an African tropical forest frog. *Authorea* (in press). <https://doi.org/10.22541/au.159645990.05594317>.
- 2020 Morgan K, Mboumba JF, Ntie S, Mickala P, Miller CA, Zhen Y, Harrigan RJ, Underwood VL, Ruegg KC, Fokam EB, Tasse Taboue GC, Sesink Clee PR, Fuller T, Smith TB, Anthony NM. Precipitation and vegetation shape patterns of genomic and craniometric variation in the Central African rodent *Praomys misonnei*. *Proceedings of the Royal Society B.* 287:20200449 <https://doi.org/10.1098/rspb.2020.0449>.
- 2018 Bay RA, Harrigan RJ, Underwood VL, Gibbs HL, Smith TB, Ruegg KC. Genomic signals of selection predict climate-driven population declines in a migratory bird.

- Science 359:83-86. DOI: 10.1126/science.aan4380.  
<https://doi.org/10.1126/science.aan4380>.
- 2017 Zhen Y, Harrigan RJ, Ruegg KC, Anderson EC, Ng TC, Lao S, Lohmueller KE, Smith TB. Genomic divergence across ecological gradients in the Central African rainforest songbird (*Andropadus virens*). Molecular Ecology 26:4966-4977.  
<https://doi.org/10.1111/mec.14270>.
- 2014 Carroll SP, Jorgensen PS, Kinnison MT, Bergstrom CT, Denison RF, Gluckman P, Smith TB, Strauss SY, Tabashnik BE. Applying evolutionary biology to address global challenges. Science 346:313-323. DOI: 10.1126/science.1245993. <https://doi.org/10.1126/science.1245993>.
- 2014 Smith TB, Kinnison MT, Strauss SY, Fuller TL, Carroll SP. Prescriptive evolution to conserve and manage biodiversity. Annual Review of Ecology, Evolution, and Systematics 45:1-22. <https://doi.org/10.1146/annurev-ecolsys-120213-091747>.
- 2011 Hendry AP, Kinnison MT, Heino M, Day T, Smith TB, Fitt G, Bergstrom C, Oakeshott J, Jørgensen PS, Zalucki M, Southerton S, Sih A, Denison RF, Carroll SP. Evolutionary principles and their practical application. Evolutionary Applications 4: 159-183. <https://doi.org/10.1111/j.1752-4571.2010.00165.x>.
- 2010 Freedman AH, Thomassen HA, Buermann W, Smith TB. Genomic signals of diversification along ecological gradients in a tropical lizard. Molecular Ecology 19: 3773-3788. <https://doi.org/10.1111/j.1365-294X.2010.04684.x>.
- 2010 Freedman AH, Buermann W, Mitchard ETA, DeFries RS, Smith TB. Human impacts flatten rainforest savanna gradient and reduce adaptive diversity in a rainforest bird. PLOS ONE 5(9): e13088. DOI:10.1371/journal.pone.0013088.  
<https://doi.org/10.1371/journal.pone.0013088>.
- 2009 Freedman AH, Buermann W, LeBreton M, Chirio L, Smith TB. Modeling the effects of anthropogenic habitat change on savanna snake invasions into African rainforest. Conservation Biology 23: 81-92. <https://doi.org/10.1111/j.1523-1739.2008.01039.x>.
- 2008 Smith TB, Grether G. The importance of conserving evolutionary processes. Pages 85-98. In S. P. Carroll and C.W. Fox (Eds.). Conservation Biology: Evolution in Action. Oxford University Press, Oxford.
- 2008 Smith TB, Milá B, Grether GF, Slabbekoorn H, Sepil I, Buermann W, Saatchi S, Pollinger JP. Evolutionary consequences of human disturbance in a rainforest bird species from central Africa. Molecular Ecology 17: 58-71.  
<https://doi.org/10.1111/j.1365-294X.2007.03478.x>.
- 2005 Smith TB, Saatchi S, Graham C, Slabbekoorn H, Spicer G. Putting process on the map: why ecotones are important for preserving biodiversity. Pages 166-197. In A. Purvis, J. Gittleman, and T. Brooks (Eds.). Phylogeny and Conservation.

Cambridge University Press, Cambridge, United Kingdom.

- 2005 Smith TB, Calsbeek R, Wayne RK, Holder KH, Pires D, Bardeleben C. Testing alternative mechanisms of evolutionary divergence in an African rainforest passerine bird. *Journal of Evolutionary Biology* 18: 257-268.  
<https://doi.org/10.1111/j.1420-9101.2004.00825.x>.
- 2005 Smith TB, Wayne RK, Girman D, Bruford MW. Evaluating the divergence-with-gene-flow model in natural populations: the importance of ecotones in rainforest speciation. Pages 148-165. In E. Bermingham, C.W. Dick, and C. Moritz (Eds.). *Tropical Rainforests: Past, Present, and Future*. University of Chicago Press, Chicago and London.
- 2001 Smith TB, Schneider CJ, Holder K. Refugial isolation vs. ecological gradients: Testing alternative mechanisms of evolutionary divergence in four rainforest vertebrates. *Genetica* 112: 383-398. <https://doi.org/10.1111/j.1420-9101.2004.00825.x>.
- 2000 Moritz C, Patton J, Schneider C, Smith TB. Diversification of rainforest faunas: An integrated molecular approach. *Annual Reviews of Ecology and Systematics* 31: 533-563. <https://doi.org/10.1146/annurev.ecolsys.31.1.533>.
- 1997 Smith TB, Wayne RK, Girman D, Bruford MW. A role for ecotones in generating rainforest biodiversity. *Science* 276: 1855-1857.  
<https://doi.org/10.1126/science.276.5320.1855>.