

AUSTIN H. PATTON

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School of Biological Sciences
Washington State University
Pullman, WA 99163
austin.patton@wsu.edu

EDUCATION

Washington State University, Pullman, Washington

Ph.D., Biology – Defended 4/9/2020

GPA 4.00/4.00

Warren Wilson College, Asheville, North Carolina

B.S., Biology & Environmental Studies, concentration in Conservation Biology

GPA 3.59/4.00

PROFESSIONAL EXPERIENCE

Undergraduate: †

TEACHING

2017-2018 Teaching assistant, Biology for Non-majors – Washington State University

2016-2017 Teaching assistant, Biology for Non-majors – Washington State University

2015-2016 Teaching assistant, Ecology – Washington State University

2014-2015 Teaching assistant, Biology for Non-majors – Washington State University

2014 † Teaching assistant, Conservation Genetics – Highlands Biological Station

2013-2014 † Teaching assistant, Conservation Genetics – Warren Wilson College

2012 † Teaching assistant, Field ornithology – Warren Wilson College

GENERAL

2013-2014 † Genetics lab manager, Warren Wilson College

**2013 † National Science Foundation Research Experience for Undergraduates
Samford University**

2012 † Rotating field intern, Project Puffin, Audubon Society

AWARDS & GRANTS

Undergraduate: †

**2020 Doctoral Student Achievement Award: Sciences – Washington State University
College of Arts and Sciences**

2019 Brislawn Graduate Fellowship in Biological Sciences – Washington State

- University Graduate Program committee* (\$3000)
- 2018** *King Graduate Scholarship – Washington State University Graduate Program committee* (\$2000)
- 2015-2019** *Elling Foundation Award for Off-Campus Training and Research Washington State University* (\$3221, \$4677, \$1190, \$2000, \$218, Co-PI A. Storfer)
- 2013** *Research Experience for Undergraduates† – National Science Foundation* (\$4200)
- 2013** *Yarborough Grant† – North Carolina Academy of Sciences* (\$567)
- 2012, 2013** *Pugh Endowed Fund for Undergraduate Research in the Division of Natural Science & Math† – Warren Wilson College* (\$854, \$2000, Co-PI J.J. Apodaca)

PUBLICATIONS

Undergraduate: †

PUBLISHED

- Margres, M.J., Ruiz-Aravena, M., Hamede R.K., Kusum C., **Patton, A.H.**, Lawrance, M.F., Fraik, A.K., Stahlke, A.R., Davis, B.W., Ostrander, E.A., Jones, M.E., McCallum, H., Paddison, P.J., Hohenlohe, P.A., Hockenbery, D. Storfer, A. A mechanism for natural tumour regression in a transmissible cancer. *Genetics*. <https://doi.org/10.1534/genetics.120.303428>
- Patton, A.H.**, Margres, M.J., Epstein, B., Eastman, J., Harmon, L.J., Storfer, A., 2020. Hybridizing salamanders experience accelerated diversification. *Scientific Reports*, 10(6566).
- Gillespie, R.G., Bennett, G.M., De Meester, L., Fleischer, R.C., Harmon, L.J., Hendry, A., Knope, M.L., Mallet, J., Martin, C., Parent, C.E., **Patton, A.H.**, Pfennig, K.S., Rubinoff, D., Schluter, D., Seehausen, O., Shaw, K., Stacy, E., Stervander, M., Stroud, J.T., Wagner, C., Wogan, G.O.U. Comparing adaptive radiations across space, time, and taxa. *Journal of Heredity*, 111(1), pp.1-20.
- Bakkegard, K.A., **Patton, A.H.**†, Ray, C.H., 2019. Chigger Mites (*Hannemania CF. dunni*) infect Northern Slimy Salamanders (*Plethodon glutinosus*) in Alabama. *Herpetological Conservation and Biology*, 14(3), pp.578-586.
- Patton, A.H.***†, Apodaca, J.J.*, Corser, J., Wilson, C., Williams, L.A., Wake, D.B., 2019. A new green salamander in the southern Appalachians: evolutionary history of *Aneides aeneus* and implications for management and conservation with the description of a cryptic microendemic species. *Copeia*, 107(4), pp.748-763.
- *Authors contributed equally
- Patton, A.H.**, Margres, M.J., Hendricks, S., Stahlke, A.R., Lewallen, K., Hamede, R.K., Ruiz-Aravena, M., Ryder, O., McCallum, H.I., Jones, M.E., Hohenlohe, P.A., and Storfer, A. 2019. Contemporary demographic reconstruction methods are robust to genome assembly

quality: A case study in Tasmanian Devils. *Molecular Biology and Evolution*, 36(12), pp.2906-2921.

Margres, M.J., **Patton, A.H.**, Wray, K.P., Hassinger, A.T., Ward, M.J., Lemmon, E.M., Lemmon, A.R. and Rokyta, D.R., 2018. Tipping the scales: The migration–selection balance leans toward selection in snake venoms. *Molecular Biology and Evolution*, 36(2), pp.271-282.

Margres, M.J., Ruiz-Aravena, M., Hamede, R., Jones, M.E., Lawrance, M.F., Hendricks, S.A., **Patton, A.H.**, Davis, B.W., Ostrander, E.A., McCallum, H. and Hohenlohe, P.A., 2018. The genomic basis of tumor regression in Tasmanian devils (*Sarcophilus harrisii*). *Genome Biology and Evolution*, 10(11), pp.3012-3025.

Storfer, A., **Patton, A.H.**, & Fraik, A. K. 2018. Navigating the interface between landscape genetics and landscape genomics. *Frontiers in Genetics*, 9, 68.

Storfer, A., Hohenlohe, P.A., Margres, M.J., **Patton, A.H.**, Fraik, A.K., Lawrance, M., Ricci, L.E., Stahlke, A.R., McCallum, H.I. and Jones, M.E., 2018. The devil is in the details: genomics of transmissible cancers in Tasmanian devils. *PLoS pathogens*, 14(8), p.e1007098

Marsh, D.M., Cosentino, B.J., Jones, K.S., Apodaca, J.J., ... **Patton, A.H.**†, ... Vonesh, J.R. 2017. Effects of roads and land use on frog distributions across spatial scales and regions in the Eastern and Central United States. *Diversity and Distributions*, 23(2), pp.158-170

IN PRESS

Kozakiewicz, C.*, Ricci, L.*, **Patton, A.H.**, Hendricks, S., Brunner, J., Goldberg, C., Ruiz-Aravena, M., McCallum, H., Hamede, R.K., Jones, M.E., Hohenlohe, P.A., Storfer, A. Comparative landscape genetics of Tasmanian devils and devil facial tumor disease. *Molecular Ecology*. <https://doi.org/10.1111/mec.15558>

*Authors contributed equally

IN REVIEW

Patton, A.H., Lawrance, M., Margres, M.J., Kozakiewicz, C.P., Hamede, R., Ruiz-Aravena, M., Hamilton, D.G., Comte, S., Ricci, L., Taylor, R., Stadler, T., Leaché, A., McCallum, H., Jones, M., Hohenlohe, P.A., Storfer, A. A transmissible cancer shifts from emergence to endemism in Tasmanian devils. *Science*.

Smith, L., Jones M.E., Hamede, R., Risques, R., **Patton, A.H.**, Carter P.A., Storfer, A. Telomere length is a susceptibility marker for Tasmanian devil facial tumor disease. *EcoHealth*.

Rogers, J., **Patton, A.H.**, Harmon, L.J., Lex, A., Meyer, M. Insights From Experiments with Rigor in an EvoBio Design Study. *IEEE Transactions on Visualization and Computer Graphics*.

SUBMITTED

Stahlke, A., Epstein, B., Barbosa, S., **Patton, A.H.**, Hendricks, S., Veillet, A., Fraik, A., Schönfeld, B., McCallum, H., Hamede, R., Jones, M., Storfer, A., Hohenlohe, P. Historical

and contemporary signatures of selection in response to transmissible cancer in Tasmanian devils (*Sarcophilus harrisii*). *Proceedings of the Royal Society B*.

PRESENTATIONS

Undergraduate: †

- 2020** **Washington State University: Talk.** *Applications of phylogenetic methods to the study of micro- and macroevolutionary diversification.*
- 2019** **Center for Theoretical Evolutionary Genetics at University of California, Berkeley: Invited Talk.** *Historical contingency in the evolution of a transmissible cancer.*
- 2019** **Evolution, Providence, Rhode Island: Poster.** *Contemporary demographic reconstruction methods are robust to genome assembly quality: A case study in Tasmanian Devils.*
- 2018** **American Genetics Association Symposium on the Origins of Adaptive Radiation, Waimea, Hawaii: Poster.** *Explosive early diversification of mainland anoles.*
- 2018** **Fred Hutch Cancer Research Center: Invited Talk.** *Phylogenetics of a transmissible cancer in Tasmanian devils.*
- 2017** **Evolution, Portland, Oregon: Talk.** *Hybridization accelerates speciation in salamanders.*
- 2016** **Special Highlands Conference on Plethodontid Salamander Biology, Highlands, North Carolina: Talk.** *Assessing the role of lineage hybridizability on diversification dynamics in salamander.*
- 2015** **6TH Conference on the Biology of Plethodontid Salamanders, Tulsa Oklahoma: Talk.** *Delimiting cryptic species in the Green salamander, *Aneides aeneus*, using ecological niche models, population genetics and phylogenetic reconstruction.*
- 2014** **Southeast Partners in Amphibian and Reptile Conservation (SEPARC), Jamestown, Kentucky: Poster.**† *Delimiting cryptic species in the Green salamander, *Aneides aeneus*, using ecological niche models, population genetics and phylogenetic reconstruction.*
- 2014** **North Carolina Academy of Sciences (NCAS), Raleigh, North Carolina: Talk.**† *Conservation genetics of the Green salamander (*Aneides aeneus*) in Western North Carolina.*
- 2013** **Samford University REU Final Symposium, Birmingham, Alabama: Talk.**† *Using geometric morphometric analyses to distinguish between two Slimy salamander species in Central Alabama.*
- 2012** **Gulf of Maine Seabird Working Group, Bremen, Maine: Talk.**† *Potential of landscape carpets for the enhancement of Tern nesting habitat.*