

CURRICULUM VITAE

Dr. Patrick Rod Stephens

Current Address:

National Center for Ecological Analysis and Synthesis

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Education:

STONY BROOK UNIVERSITY, Stony Brook, New York

Department of Ecology and Evolution

Doctor of Philosophy in Ecology and Evolutionary Biology, August 2005

Advisor: Dr. John J. Wiens

UNIVERSITY OF PITTSBURGH, Pittsburgh, Pennsylvania

Department of Biological Sciences

Doctoral Student, attended Fall 1998 to Fall 2002

(transferred to Stony Brook Spring 2003)

Advisor: Dr. John J. Wiens

UNIVERSITY OF SOUTH ALABAMA, Mobile, Alabama

Master of Science in Biology, July, 1998

Master's thesis entitled: Variation in the cranial osteological morphology of turtles in the genus *Graptemys* (Reptilia; Anapsida; Testudines; Cryptodira; Emydidae; Deirochelyinae)

Advisor: Dr. Joseph Fitzpatrick, Jr.

UNIVERSITY OF ALABAMA IN HUNTSVILLE, Huntsville, Alabama

Bachelor of Science Biology, August, 1995

Research Interests

My research utilizes a phylogenetic perspective to explore topics that lie at the interface of ecology and evolutionary biology, using reptiles and amphibians as the study system. Specific topics include:

- The origins of geographic patterns of species richness.
- The factors that limit the distribution of lineages, and how these factors relate to large scale patterns of community structure.
- The evolution of ecological specialization and tradeoffs.
- Phylogeny of amphibians and reptiles.

Publications

Stephens, P. R., and J. J. Wiens. 2003. Explaining species richness from continents to communities: the time for speciation effect in emydid turtles. *American Naturalist* 161: 112–128.

Stephens, P. R., and J. J. Wiens. 2003. Ecological diversification and phylogeny of emydid turtles. *Biological Journal of the Linnean Society* 79:577–610.

- Stephens, P. R., and J. J. Wiens. 2004. Convergence, divergence, and homogenization in the ecological structure of emydid turtle communities: the effects of phylogeny and dispersal. *American Naturalist* 164:244–164.
- Smith, S. A., P. R. Stephens, and J. J. Wiens. 2005. Phylogeny, biogeography, and replicated patterns of species richness in temperate treefrogs. *Evolution* 59:2433–2450.
- Stephens, P. R., and J. J. Wiens. 2007. Unexpected evolutionary trade-offs in the ecological diversification of emydid turtles. *Journal of Evolutionary Biology* (submitted).
- Stephens, P. R. and J. J. Wiens. 2007. Primary niche conservatism and community assembly in emydid turtles. (in prep., to be submitted to *Ecology*).

Current Projects

- Stephens, P. R., T.N., Engstrom, and J. J. Wiens. 2007. Evolution of sexual size dimorphism and geographic modes of speciation in emydid turtles: testing the “two sides of an ecological coin” hypothesis. *Evolution* (in preparation, expected submission April 2007)
- Stephens, P. R. 2007. An abbreviated history of time and species richness: recent developments and ongoing methodological challenges. *Ecology Letters* (in prep, invited submission, expected completion summer 2007).

Awards and Honors

- Postdoctoral Fellowship, National Center for Ecological Analysis and Synthesis: "The effects of lineage age on the species richness of regional assemblages." (October 2005-October 2007)
- Postdoctoral Fellowship, The National Evolutionary Synthesis Center: "An evolutionary perspective on the origins of large scale patterns of species richness." (declined)
- Mellon Predoctoral Fellowship, University of Pittsburgh (2002-2003 academic year).
- Stanton C. Crawford Award, University of Pittsburgh (2002) for outstanding teaching by a graduate student.
- Frederick H. Stoye Award (2001), best student paper in General Herpetology, awarded by the American Society of Ichthyologists and Herpetologists.
- Henri Siebert Award (2000) best student paper in Ecology and Evolution, awarded by the Society for the Study of Amphibians and Reptiles.
- Graduate Recruiting Fellowship, University of Pittsburgh (1998-1999 academic year).
- Phi Kappa Phi Honor Society (inducted Spring 1997).
- Academic Scholarship, University of Alabama in Huntsville (5 years).

Grants:

- Doctoral Dissertation Improvement Grant, National Science Foundation: "A phylogenetic perspective on community ecology and ecological diversification in emydid turtles," June 2004 to June 2006 (DEB: 0412793), \$11,956.
- G. Murray McKinley Research Fund: "The coevolution of ecology, morphology, and locomotor performance in emydid turtles," Pymatuning Laboratory of Ecology, July to November 2002, \$3,000.
- G. Murray McKinley Research Fund: "A preliminary investigation of the coevolution of ecology, morphology, and locomotor performance in emydid turtles," Pymatuning Laboratory of Ecology, May to August 2001, \$2,550.

- M. Graham Netting Research Fund: "A phylogenetic analysis of the coevolution of ecology, morphology, and locomotor performance in emydid turtles," Carnegie Museum of Natural History, May to September 2001, \$5,879.

Invited Seminars

- Stephens, P. R. 2002. The use of phylogenies to understand the ecology and biogeography of organisms: examples from emydid turtles. University of Endinborough of Pennsylvania, Endinborough, PA. Undergraduate Honors Colloquium.
- Stephens, P. R. 2004. A phylogenetic perspective on the species richness and ecological structure of emydid turtle assemblages. Department of Ecology and Evolutionary Biology, Yale University.
- Stephens, P. R. 2006. A phylogenetic perspective on the origins of geographic patterns of species richness and community structure in emydid turtles. Department of Ecology and Evolution, University of Minnesota.
- Stephens, P. R. 2006. A phylogenetic perspective on the species richness and community structure of emydid turtles assemblages. Museum of Vertebrate Zoology, University of California, Berkeley.
- Stephens, P. R. 2006. A phylogenetic perspective on the species richness and community structure of emydid turtles assemblages. Department of Biology, California State University Northridge.
- Stephens, P. R. 2006. A phylogenetic perspective on the species richness and community structure of emydid turtles assemblages. Department of Biology, California State University, San Diego.

Field Experience

- Four months collecting specimens, ecological data, and behavioral data for a project on the evolution of color morphs of redbacked salamanders (*Plethodon cinereus*)
- Two months trapping turtles in western Pennsylvania for a project on the evolution of tradeoffs in the locomotor performance of emydids.

Teaching Experience

- Work shop: Niche Modeling Using BIOCLIM, November 2007, CSU Northridge
- Teaching Assistant, Stony Brook University: Undergraduate Evolution (including one guest lecture), one semester
- Teaching assistant, University of Pittsburgh: Introductory Biology Lab (two semesters), Microbiology Lab (one semester), Vertebrate Morphology Lab (three semesters), Field Ecology (two semesters), Field Mammology (two semesters)
- Teaching Assistant, University of South Alabama: Introductory Biology (two semesters), Undergraduate Zoology (three semesters), Introductory Botany (two semesters)
- Training: In the past year I have trained high school students (3), undergraduates (9), and beginning graduate students (1) in laboratory techniques for molecular systematics and in the use of digital video editing and image analysis software.
- Research Advisor: I have advised undergraduates (7) and high school students (3) as they designed, executed and reported research projects. Sample final reports available upon request.

Miscellaneous Professional Activities:

Presentations at Professional Meetings

- Stephens, P. R., and J. J. Wiens. 2007. Phylogeny and the evolution of sexual size dimorphisms in emydid turtles. Presented: 2007 annual joint meeting of the Society of American Naturalists, Society of Systematic Biologists, and the Society for the Study of Evolution at Christchurch, New Zealand.
- Stephens, P. R., T. N. Engstrom, and J. J. Wiens. 2006. The Evolution of Trade-offs in Emydid Turtle Locomotor Performance. Presented: 2006 annual joint meeting of the Society of American Naturalists, Society of Systematic Biologists, and the Society for the Study of Evolution at Stony Brook University, Stony Brook, New York.
- Stephens, P. R., and J. J. Wiens. 2006. The origins of large-scale patterns of community structure in emydid turtle assemblages: competition versus phylogenetic niche-conservatism. Presented: 2006 annual joint meeting of the Herpetologists League, Society for the Study of Amphibians and Reptiles, and the American Society of Ichthyologists and Herpetologists in New Orleans, Louisiana.
- Stephens, P. R., and J. J. Wiens. 2005. The evolution of trade-offs in emydid turtle locomotor performance. Presented: 2005 annual joint meeting of the Herpetologists League, Society for the Study of Amphibians and Reptiles, and the American Society of Ichthyologists and Herpetologists in Tampa, Florida.
- Stephens, P. R., T. N. Engstrom, and J. J. Wiens. 2004. Phylogeny and community assembly of emydid turtles. Presented: 2004 annual joint meeting of the Society of American Naturalists, Society of Systematic Biologists, and the Society for the Study of Evolution at Colorado State University, Fort Collins, Colorado.
- Smith, S. A., P. R. Stephens, and J. J. Wiens. 2004. Phylogeny, biogeography, and replicated patterns of species richness in temperate treefrogs. Presented: 2004 annual joint meeting of the Society of American Naturalists, Society of Systematic Biologists, and the Society for the Study of Evolution at Colorado State University, Fort Collins, Colorado.
- Stephens, P. R., and J. J. Wiens. 2003. Convergence and divergence the ecological structure of natural communities: the effects of phylogenetic inertia and dispersal in emydid turtles. Presented: 1st Annual Northeast Ecology & Evolution Conference at Rutgers University, Rutgers, New Jersey.
- *Stephens, P. R., and J. J. Wiens. 2001. Phylogeny, ecological diversification, and community structure in emydid turtles. Presented: 2001 annual meeting of the American Society of Ichthyologists and Herpetologists in State College, Pennsylvania.
* Frederick H. Stoye Award (2001), best student paper in General Herpetology
- Stephens, P. R., and J. J. Wiens. 2001. Phylogeny, ecological diversification, and community structure in emydid turtles Presented: 2001 annual meeting of the of the Society for the Study of Evolution in Knoxville, Tennessee.
- **Stephens, P. R., and J. J. Wiens. 2000. The effects of phylogenetic history on patterns of emydid species richness at different spatial scales. Presented: 2000 annual joint meeting of the Herpetologists League, Society for the Study of Amphibians and Reptiles, and the American Society of Ichthyologists and Herpetologists in La Paz, Mexico.
** Henri Siebert Award (2000) best student paper in Ecology and Evolution
- Stephens, P. R., and J. J. Wiens. 2000. Species richness in ecological communities: a phylogenetic, biogeographic, and ecological perspective in emydid turtles. Presented: 2000 annual joint meeting of the Society of American Naturalists, Society of Systematic Biologists, and the Society for the Study of Evolution in Bloomington, Indiana.

- Stephens, P. R., and J. J. Wiens. 1999. Phylogenetic relationships and ecological evolution of emydid turtles. Presented: 1999 annual joint meeting of the Herpetologists League, Society for the Study of Amphibians and Reptiles, and the American Society of Ichthyologists and Herpetologists in State College, Pennsylvania.

Synergistic Activities

Participated in the “Undergraduate diversity at Society for the Study of Evolution 2001” program as the graduate student mentor for Matthew Fujita (from the University of California, Berkley). This was an NSF funded pilot program intended to help foster racial diversity in the field of evolutionary biology by exposing advanced undergraduates of diverse ethnic backgrounds to an encouraging professional academic environment.

Manuscripts Reviewed for the Following Journals:

American Naturalist, Copeia, Ecography, Ecological Applications, Ecology Letters, Evolution, Zoologica Scripta.

Affiliations

American Society of Ichthyologists and Herpetologists, American Society of Naturalists, Herpetologist's League, Society for the Study of Amphibians and Reptiles, Society for the Study of Evolution, Society of Systematic Biologists