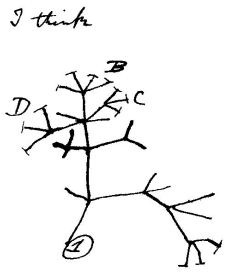
CURRICULUM VITAE

Matthew C. Brandley
Postdoctoral fellow
School of Biological Sciences
University of Sydney, NSW 2006
Australia

Phone: +61 04 3491 4840
E-mail: mbrandley@gmail.com
Google Scholar: http://tinyurl.com/brandley
Home page: www.mattbrandley.com



EDUCATION

· Ph.D., University of California – Berkeley (2008)
· M.S., San Diego State University (2005)
· B.S., *summa cum laude*, University of Oklahoma (2001)

POSTDOCTORAL EXPERIENCE

· Australian Research Council Discovery Early Career Research Award (DECRA) Postdoctoral Fellow, School of Biological Sciences, University of Sydney (2012 – 2014)
· University of Sydney Postdoctoral Fellow, School of Biological Sciences, University of Sydney (2010 – relinquished 2012)
· Gaylord Donnelley Environmental Postdoctoral Fellow, Department of Ecology & Evolutionary Biology, Yale University (2008 – 2010)

PROFESSIONAL EXPERIENCE

· Adjunct faculty, New York University – Sydney, Australia (2015)
· Adjunct faculty, Department of Biology, College of Alameda, Alameda, CA, USA (2007 – 2008)

RESEARCH PROGRAM

Using primarily squamate reptiles (lizards and snakes) as a study system, my research program addresses three major questions in evolutionary biology:

1. How are organisms related in evolutionary history?
2. What factors explain organisms' natural history and geographic distribution?
3. How do convergent changes in body plan and physiology evolve?

I study these questions using advanced methods of statistical phylogenetic analysis combined with anatomical, morphometric, genomic, and gene expression data. A parallel track in my research program is to test and improve upon existing methods of phylogenetic analysis and downstream applications.

TEACHING EXPERIENCE

- Principles of biology laboratory, New York University – Sydney campus (Fall 2015).
  - Sole instructor responsible for developing original lectures, exams, and laboratory practicals.
- Human biology lecture (nutrition), University of Sydney (2013, 2014)
- Human anatomy lecture and lab, as adjunct faculty, College of Alameda (Spring 2008; Two classes).
  - Sole instructor responsible for developing original lectures, exams, and laboratory practicals. I was also responsible for laboratory preparation and specimen care, and the prosectionist responsible for the majority of the cadaver dissection.
- Human sexuality, as adjunct faculty, College of Alameda (Spring 2007)
  - Sole instructor responsible for developing completely original lectures, exams.
- Biology and sociobiology of human reproduction discussion, UC Berkeley (Spring 2005, 2007, 2008)

- Human anatomy laboratory, San Diego State University (Autumn 2002) and UC Berkeley (Autumn 2003, Summer 2004, Autumn 2004- 2006)
- Herpetology laboratory, UC Berkeley (Spring 2004)
- Introduction to organismal biology laboratory, San Diego State University (Autumn 2001, Spring 2002)

PEER-REVIEWED JOURNAL ARTICLES

32. Wright, A., K. Lyons, **M.C. Brandley**, and D.M. Hillis. Which came first: the lizard or the egg? Robustness in phylogenetic reconstruction of ancestral states. **Journal of Experimental Zoology B: Molecular and Developmental Evolution**, *in press*.

31. Griffith, O.W., D.G. Blackburn, **M.C. Brandley**, J.U. Van Dyke, C.M. Whittington, M.B. Thompson. 2015. Ancestral state reconstructions require biological evidence to test evolutionary hypotheses: A case study examining the evolution of reproductive mode in squamate reptiles. **Journal of Experimental Zoology B: Molecular and Developmental Evolution**, *in press.*

30. Iglesias, T.L., A. Dornburg, **M.C. Brandley**, M.E. Alfaro, and D.L. Warren. Life in the unthinking depths: energetic constraints on encephalization. **Journal of Evolutionary Biology** 28:1080-1090.

29. **Brandley, M.C.**, J.G. Bragg, D.G. Chapple, C.K. Jennings, A.R. Lemmon, E.M. Lemmon, S. Singhal, M.B. Thompson, C. Moritz. 2015. Evaluating the performance of anchored hybrid enrichment at the tips of the tree of life: a phylogenetic analysis of Australian *Eugongylus* group scincid lizards. **BMC Evolutionary Biology** 15:62.

28. **Brandley, M.C.**, T. Kuriyama, and M. Hasegawa. 2014. Snake and bird predation drive the repeated convergent evolution of correlated life history traits and phenotype in the Izu Island scincid lizard (*Plestiodon latiscutatus*). **PLoS ONE** 9:292233.

27. Near, T.J., A. Dornburg, M. Tokita, D. Suzuki, **M.C. Brandley**, and M. Friedman. 2014. Boom and bust: ancient and recent diversification in bichirs and ropefish (Polypteridae: Actinopterygii), a relictual lineage of ray-finned fishes. **Evolution** 68:1014–1026.

26. Van Dyke, J.U., **M.C. Brandley**, and M.B. Thompson. 2014. The evolution of viviparity: molecular and genomic data from squamate reptiles advance understanding of live birth in amniotes. **Reproduction** 147: R15-R26.

25. Andrews, R.M., **M.C. Brandley**, and V.W. Greene. 2013. Developmental sequences of squamate reptiles are taxon specific. **Evolution and Development** 15:326-343.

24. Burbrink, F.T., X. Chen, E. Myers**, M.C. Brandley**, and R.A. Pyron. 2012. Evidence for determinism in species diversification and contingency in phenotypic evolution during adaptive radiation. **Proceedings of the Royal Society B: Biological Sciences** 279:4817–4826.

23. Dornburg, A., J.A. Moore, R. Webster, D.L. Warren, **M.C. Brandley**, T. Iglesias, and T.J. Near. 2012. A molecular phylogeny of the squirrelfishes and soldierfishes (Beryciformes, Holocentridae): reconciling over 100 years of taxonomic confusion. **Molecular Phylogenetics and Evolution** 65:727-738.

22. **Brandley, M.C.**, R.L. Young, D.L. Warren, M.B. Thompson, and G.P. Wagner. 2012. Uterine gene expression in the live-bearing lizard, *Chalcides ocellatus,* reveals convergence of squamate reptile and mammalian pregnancy mechanisms. **Genome Biology and Evolution** 4:394-411.

21. Murphy, B.F., **M.C. Brandley**, C.R. Murphy, and M.B. Thompson. 2012. Evolution of the placentae of *Eulamprus quoyii* group skinks (Squamata: Scincidae). **Journal of Anatomy** 220:454-471.

20. **Brandley, M.C.**, H. Ota, T. Hikida, A. Nieto Montes de Oca, M. Fería Ortíz, X. Guo, and Y. Wang. 2012. The phylogenetic systematics of blue-tailed skinks (*Plestiodon*) and the family Scincidae. **Zoological Journal of the Linnean Society** 165:163-189.

19. Dornburg, A., **M.C. Brandley**, M.R. McGowen, and T.J. Near. 2012. Relaxed clocks and inferences of heterogeneous patterns of nucleotide substitution and divergence time estimates across whales and dolphins (Mammalia: Cetacea). **Molecular Biology and Evolution** 29:721-736.
18. **Brandley, M.C.**, Y. Wang, X. Guo, A. Nieto Montes de Oca, M. Fería Ortíz, T. Hikida, and H. Ota. 2011. Accommodating locus-specific heterogeneity in molecular dating methods: an example using inter-continental dispersal of *Plestiodon* (*Eumeces*) lizards. **Systematic Biology** 60:3-15.

17. Dornburg, A., D.L. Warren, T. Iglesias, and **M.C. Brandley**. 2011. Natural history observations of the ichthyological and herpetological fauna on the island of Curaçao (Netherlands). **Bulletin of the Peabody Museum of Natural History** 52:181-186.

16. Kuriyama, T., **M.C. Brandley**, A. Katayama, A. Mori, M. Honda, and M. Hasegawa. 2010. A time-calibrated phylogenetic approach to assessing the phylogeography and colonization history of snakes in the Japanese Izu Islands. **Journal of Biogeography** 38:259-271.

15. **Brandley, M.C.,** R.A. Pyron, T.J. Guiher, C.T. Winne, and F.T. Burbrink. 2010. Does dispersal across an aquatic geographic barrier obscure phylogeographic structure in the diamond-backed watersnake (*Nerodia rhombifer*)? **Molecular Phylogenetics and Evolution** 57:552-690.

14. Kohlsdorf, T., V.J. Lynch, M. Rodrigues, **M.C. Brandley**, and G.P. Wagner. 2010. Data and data-interpretation in the study of limb evolution: a reply to Galis et al., on the re-evolution of digits in the lizard genus *Bachia*. **Evolution** 64:2477–2485.

13. **Brandley, M.C.**, Y. Wang, X. Guo, A. Nieto Montes de Oca, M. Fería Ortíz, T. Hikida, and H. Ota. 2010. Bermuda is a life raft for an ancient lineage of endangered lizards. **PLoS ONE** 5:e11375.

12. He, K., Y-J Li, **M.C. Brandley**, L-K Lin, Y-X Wang, Y-P Zhang, X-L Jiang. 2010. A multi-locus phylogeny of Nectogalini shrews and influences of the paleoclimate on speciation and evolution. **Molecular Phylogenetics and Evolution** 56:734-746.

11. Suzuki, D., **M.C. Brandley**, and M. Tokita. 2010. The molecular phylogeny of an ancient lineage of ray-finned fishes (Polypteridae) with implications for the evolution of body elongation, pelvic fin loss, and craniofacial morphology in Osteichthyes. **BMC Evolutionary Biology** 10:21.

10. **Brandley**, **M.C.**, D.L. Warren, A.D. Leaché, and J.A. McGuire. 2009. Homoplasy and clade support. **Systematic Biology** 58:184-198.

9. Vincent, S.E., **M.C. Brandley**, A. Herrel, and M.E. Alfaro. 2009. Convergence in trophic morphology and feeding performance among piscivorous natricine snakes. **Journal of Evolutionary Biology** 22:1203-1211.

8. Xiong, Y., **M.C. Brandley**, S. Xu, K. Zhou, and G. Yang. 2009. Seven new dolphin mitochondrial genomes and a time-calibrated phylogeny of whales. **BMC Evolutionary Biology** 9:20.

7. **Brandley**, **M.C.**, J.P. Huelsenbeck, and J.J. Wiens. 2008. Rates and patterns in the evolution of snake-like body form in squamate reptiles: evidence for repeated re-evolution of lost digits and long-term persistence of intermediate body forms. **Evolution** 62:2042-2064.

6. **Brandley**, **M.C.**, A.D. Leaché, D.L. Warren, and J.A. McGuire. 2006. Are unequal clade priors problematic for Bayesian phylogenetics? **Systematic Biology** 55:138-146.

5. Wiens, J.J., **M.C. Brandley**, and T.W. Reeder. 2006. Why does a trait evolve multiple times within a clade? Repeated evolution of snake-like body form in squamate reptiles. **Evolution** 60:123-141.

4. **Brandley, M.C.**, A. Wynn, and K. de Queiroz. 2006. Karyotype and relationships of *Anolis desechensis*. **Journal of Herpetology** 140:136-139.

3. **Brandley**, **M.C.**, A. Schmitz, and T.W. Reeder. 2005. Partitioned Bayesian analyses, partition choice, and the phylogenetic relationships of scincid lizards. **Systematic Biology** 54:373-390.

2. Schmitz, A., **M.C. Brandley**, P. Mausfeld, M. Vences, F. Glaw, R.A. Nussbaum, and T.W. Reeder. 2005. Opening the black box: phylogenetics and morphological evolution of the Malagasy fossorial lizards of the subfamily "Scincinae". **Molecular Phylogenetics and Evolution** 34:118-133.

1. **Brandley, M.C.**, and K. de Queiroz. 2004. Phylogeny, ecomorphological evolution, and historical biogeography of the *Anolis cristatellus* series. **Herpetological Monographs** 18:90-126.

TEXTBOOK CHAPTERS

I am currently writing, and will be a named author on, four chapters on reptile fossil history, amphibian diversity and systematics, reptile diversity and systematics, and biogeography in the *Herpetology* 4th edition textbook (Pough et al.), Sinauer Associates, Inc. These four chapters comprise approximately one-third of the entire book. The book will be published in late July, 2015.

BOOK CHAPTERS (NOT TEXTBOOK)

Wiens, J.J., and **M.C. Brandley**. 2009. The Evolution of Limblessness. **Grzimek's Animal Encyclopedia.**

GRANT FUNDING

- Australian Research Council Discovery Early Career Researcher Award (DECRA) postdoctoral fellowship (Jan 2012 – 31 Dec 2014). $375,000AUD including salary and $120,000AUD research funding.
- University of Sydney Postdoctoral Fellowship (July 2010 – relinquished Dec 2011). $334,465AUD including salary and $25,000AUD research funding.
- Yale University Gaylord Donnelley Environmental Postdoctoral Fellowship, Yale University (2008-2010), $86,000 (Salary + $2000 research funding).
- Phi Beta Kappa Doctoral Dissertation Fellowship (2008), $5000
- American Philosophical Society Lewis and Clark Fund (2008), $2500
- Sigma Xi Grant-in-Aid-of-Research, Berkeley chapter (2008), $450
- National Science Foundation Doctoral Dissertation Improvement Grant (DEB 0709885; 2007), $11,973
- Linnean Society Systematics Research Fund (2007), £860
- UC Berkeley, Department of Integrative Biology summer research award (2007), $1500
- National Science Foundation East Asia and Pacific Summer Institute fellowship – Japan (OISE 0611646; 2006)
- UC Berkeley, Department of Integrative Biology summer research award (2006), $4300
- National Science Foundation East Asia and Pacific Summer Institute fellowship – China (OISE 0513295; 2005)
- Museum of Vertebrate Zoology Hendrickson Fund (2005), $2000
- Museum of Vertebrate Zoology Carl B. Koford Memorial Fund (2004), $2000
- Society of Systematic Biologists Award for Graduate Student Research (2003), $1500

- American Museum of Natural History Theodore Roosevelt Fund (2003), $1551
- American Society of Ichthyologists and Herpetologists Gaige fund (2003), $500
- University of Oklahoma Undergraduate Research Opportunities program grant (2001), $500
- Smithsonian Institution National Museum of Natural History, Research Training Program Internship Kevin de Queiroz, advisor (2000).

ACADEMIC SERVICE

- Animal ethics committee, University of Sydney (September 2012 – December 2014)
- Animal ethics executive committee, University of Sydney (September 2014 – December 2014)
- Honor's thesis marking, University of Sydney (2012, 2013)
- Coordinator of phylogenetics discussion group, U.C. Berkeley (2004-2008)

JOURNAL EDITOR

- Associate editor of *Current Herpetology* (Jan 2015 – present)
- Associate editor to a special viviparity issue of the *Journal of Experimental Zoology B: Molecular and Developmental Evolution* (expected publication late 2015)

AWARDS AND HONORS

- Society of Systematic Biologists Ernst Mayr Award for Systematics (2007)
- Society for the Study of Amphibians and Reptiles Henri Seibert Award in Systematics (2003)
- San Diego State University scholarships (2002-2003)
- National Goldwater Scholar (2000-2001)
- University of Oklahoma Department of Zoology Adams Scholarship, Jack Roe Denton Scholarship, Honors Scholar, PACE academic award for freshmen (1998-2001)

CONFERENCE PRESENTATIONS

Yearly presentation to at least one (usually more) of the following annual conferences: Australasian Evolution Society, Australian and New Zealand Society for Comparative Physiology and Biochemistry, Australian Society of Herpetologists, Evolution, Genetics Society of Australasia, Joint meeting of Ichthyologists and Herpetologists, Japanese Ecological Society.

INVITED PRESENTATIONS AND WORKSHOPS

- "Solid dates, different rates: divergence time estimation in the face of extreme rate heterogeneity", Australian National University, Australia (2011)
- "Colonization history of *Plestiodon latiscutatus* on the Izu Islands", Toho University, Japan (2011); Ecological Society of Japan (2010)
- "The phylogeography of Izu Island *Elaphe quadrivirgata* and the evolution of body size", Ecological Society of Japan (2009)
- "A Farewell to Arms (and Legs): rates and patterns of body-form evolution in squamate reptiles", Yale University (2008)
- "The Phylogeography of シマヘビ (*Elaphe quadrivirgata*) in the Izu Islands", Toho University, Japan (2008)
- "Snakes that aren't: a phylogenetic perspective on the evolution of limbless lizards", Savannah River Ecology Laboratory (2007)
- Vertebrate Phylogenetics Workshop, UC Berkeley Tree of Life Seminar Series (2007)

PROFESSIONAL CERTIFICATIONS

American Academy of Underwater Scientists certified Scientific SCUBA Diver with certifications in open water, advanced open water, rescue, nitrox, and dry suit diving.

JOURNAL REVIEWER

Asian Herpetological Research, Biological Journal of the Linnean Society, Biology Letters, BMC Evolutionary Biology, Bulletin of the Peabody Museum of Natural History, Caribbean Journal of Science, Copeia, Current Herpetology, Evolution, Herpetologica, Herpetological Monographs, Herpetological Review, Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, Journal of Morphology, Journal of Zoology, Molecular Biology and Evolution, Molecular Phylogenetics and Evolution, Pacific Science, PLoS ONE, Proceedings of the National Academy of Sciences USA, Systematic Biology, Zoological Journal of the Linnean Society, Zoologica Neocaledonica, Zoologica Scripta, Zoological Science, and Zootaxa.