

Bio Bibliography
BARRY R. SINERVO
Professor of Ecology and Evolutionary Biology
Department of Ecology and Evolutionary Biology
Earth and Marine Sciences Building,
University of California, Santa Cruz, CA 95064

EMPLOYMENT

2001- Full Professor of Ecology and Evolutionary Biology, University of California, Santa Cruz
2007- Affiliated faculty, Computer Science and Engineering, UC Santa Cruz
2005- Adjunct faculty, Digital Art and New Media, UC Santa Cruz
1998-2001 Associate Professor of Ecology and Evolutionary Biology, University of California, Santa Cruz
1997-1998 Assistant Professor of Biology, University of California, Santa Cruz
1992-1997 Assistant Professor of Biology, Indiana University
1992-1993 Research Scientist III, Department of Zoology, University of Washington, Seattle, WA
1990-1992 Research Associate, Department of Zoology, University of Washington, Seattle, WA
1988-1990 Research Fellow, Miller Institute for Basic Research in Science, University of California, Berkeley

EDUCATION

1988 University of Washington, Seattle, WA, Ph.D., Zoology
1982 Dalhousie University, Halifax, Nova Scotia, Canada,
Combined HBSc in Biology/Mathematics (First Class Honors)

HONORS and AWARDS

2010 Professor of Toulouse, Université Paul Sabatier - Toulouse III (2 months summer)
2008 Research Scientist, CNRS (Centre Nationale pour les Recherche Scientifique) Moulis (4 months)
2007 Professor of Toulouse, Université Paul Sabatier - Toulouse III (2 months summer)
2004 Visiting Professor, Natural History Museum, Paris (2 months summer)
2004 Awarded Best Paper in *The American Naturalist*, (co-recipients with R.B. Huey & P.E. Hertz).
2003 Visiting Professor, Paris University (2 months summer)
2001 CNRS Summer Professorship, CNRS, Paris (3 months summer)
2000 Elected Member, California Academy of Sciences
1992 Dobzhansky Prize, Society for the Study of Evolution
1989 American Society of Naturalist Young Investigator Prize
1988-1990 Miller Research Fellow, Miller Institute for Basic Research in Science, UC Berkeley.
1982-1986 1967 Science Scholar, Natural Sciences Engineering and Research Council of Canada (NSERC)
1982 Commonwealth Scholarship, which I declined
Annual Fund Fellowship, University of Washington
University Medal in Biology, Dalhousie University
Graduated with First Class Honours, Honours B.Sc.
Combined Biology and Mathematics, Dalhousie University
1981 G.S. Burke Scholarship in Biology, Dalhousie University
1980-1982 Undergraduate Research Awards (3), NSERC
1978-1981 Scholarships in Biology (4), Dalhousie University, Halifax, Nova Scotia
1978 Ontario Scholar, Ontario

GRANTS

1980-2012 39 Grants

PUBLICATIONS in the last 5 years: (a total of 86 published journal articles, 16 book chapters, 4 book reviews, 1 book, 2 books in preparation)

- 86) **Sinervo B**, Méndez-de-la-Cruz F, Miles DB, Heulin B, Bastiaans E, Villagran-Santa Cruz M, Lara-Resendiz R, Martínez-Méndez N, Calderón-Espinosa ML, Meza-Lázaro RN, Gadsden H, Avila LJ, Morando M, De la Riva IJ, Victoriano Sepulveda P, Duarte Rocha CF, Ibargüengoytia N, Puntriano CA, Massot M, Lepetz V, Oksanen TA, Chapple DG, Bauer AM, Branch WR, Clobert J, Sites, Jr. JW (2010) Rapid erosion of lizard diversity at global scales: altered thermal niches due to climate change. *Science*, 328: 894-899. ISSN: 1095-1203.
- 85) **Sinervo, B.**, B. Heulin, D. B. Miles, I. Zwach, V. Lepetz, M. Massot, T. A. Oksanen, and J. Clobert. In review. Recent and rapid extinction at the southern margin of the common lizard's species range due to climate change. *PNAS*, in review.
- 84) **Sinervo, B.**, A. Chaine, and D. B. Miles. In review. Social games and genic selection drives mammalian mating system evolution and speciation. *PNAS*, in review.
- 83) Lancaster, L. T., A. G. McAdam, and **B. Sinervo**. 2010. Maternal effects and body shape variation integrate alternative reproductive and antipredator strategies: Stocky is sneaky and lean is mean. *Evolution*, in press.
- 82) Barker, F. K., M. Clamp, A. J. Crawford, R. Hanner, O. H. Hanotte, W. Johnson, J. McGuire, W. Miller, R. W. Murphy, W. J. Murphy, F. H. Sheldon, **B. Sinervo**, B. Venkatesh, E. O. Wiley, F. W. Allendorf, S. Baker, G. Bernardi, S. Brenner, J. Cracraft, M. Diekhans, S. Edwards, J. Estes, P. Gaubert, A. Graphodatsky, J. A. Marshall Graves, E. D. Green, P. Hebert, K. M. Helgen, B. Kessing, D. M. Kingsley, H. A. Lewin, G. Luikart, P. Martelli, N. Nguyen, G. Orti, B. L. Pike, D. M. Rawson, S. C. Schuster, H. Nicolás Seuánez, H. B. Shaffer, M. S. Springer, J. M. Stuart, E. Teeling, R. C. Vrijenhoek, R. D. Ward, R. Wayne, T. M. Williams, N. D. Wolfe, Y.-P. Zhang. 2009. Genome 10K: A Proposition to Obtain Whole Genome Sequence for 10,000 Vertebrate Species. *Journal of Heredity*, in press.
- 81) Corl, A., A. Davis, S. Kuchta, and **B. Sinervo**. 2010. Selective loss of polymorphic mating types is associated with rapid phenotypic evolution during morphic speciation. *PNAS*, in press.
- 80) Vercken E, Clobert J, and **B. Sinervo**. 2010. Frequency-dependent reproductive success in female common lizards: a real-life hawk-dove-bully game?. *Oecologia* 162:49-58.
- 79) Svensson, E. I., A. G. McAdam, and **B. Sinervo**. 2009. Intralocus sexual conflict over immune defense and the resolution of gender load in a natural lizard population. *Evolution*, in press.
- 78) Corl, A., A. Davis, S. Kuchta, T. Comendant, and **B. Sinervo**. 2009. Alternative Mating Strategies and the Evolution of Sexual Size Dimorphism in the Side-Blotched lizard, *Uta stansburiana*: A Population-Level Comparative Analysis, *Evolution*, in press.
- 77) LaDage, L. D., B. J. Riggs, **B. Sinervo**, and V. V. Pravosudov. 2009. Dorsal cortex volume in male side-blotched lizards, *Uta stansburiana*, is associated with different space use strategies. *Animal Behaviour* 78: 91-96
- 76) Lancaster, L., Hipsley, C. and **Sinervo, B.** 2009. Female choice for optimal combinations of multiple male display traits increases offspring survival. *Behavioral Ecology* doi:10.1093/beheco/arp088.
- 75) Kuchta, S., Krakauer, A. H. and Sinervo, B. 2008. Why does the yellow-eyed *Ensatina* have yellow eyes? Batesian mimicry of Pacific Newts (Genus *Taricha*) by the salamander *Ensatina eschscholtzii xanthoptica*. *Evolution* doi:10.1111/j.1558-5646.2008.00338.x.
- 74) **Sinervo, B.**, Clobert, J., Miles, D. B., McAdam, A. G. and L. T. Lancaster. 2008. The role of pleiotropy versus signaler-receiver gene epistasis in life history trade-offs: dissecting the genomic architecture of organismal design in social systems. *Heredity* 101:197-207.
- 73) Vercken E, Sinervo B, Clobert J. 2008. Colour variation in female common lizards: why we should speak of morphs, a reply to Cote et al. *Journal of Evolutionary Biology* doi: 10.1111/j.1420-9101.2008.01535.x
- 72) Lancaster, Hazard, L., Clobert, J. and **Sinervo, B.** 2008. Corticosterone manipulation reveals differences in hierarchical organization of multi-dimensional reproductive trade-offs in r-strategist and K-strategist females. *Journal of Evolutionary Biology* 21: 556-565.

- 71) **Sinervo, B.** and McAdam, A. 2008. Maturational costs of reproduction on clutch size and ontogenetic conflict as measured by the invisible fraction, *Proceedings of the Royal Society, London B.*, **275**: 629-638 (*special issue on evolutionary inference from field pedigrees, invited paper, Edited by Hill and Kruuk*).
- 70) Mills, S., Hazard, L., Lancaster, L., Mappes, T., Miles, D. B., Oksanen, T. and **Sinervo, B.** 2008. Gonadotropin hormone modulation of testosterone, immune function, performance, and behavioral trade-offs among male morphs of the lizard, *Uta stansburiana*. *The American Naturalist*, 171: 339-357.
- 69) Alonzo, S. and **Sinervo, B.** 2007. The effect of sexually antagonistic selection on adaptive sex ratio allocation. *Evolutionary Ecology Research*, **9**: 1-21.
- 68) Bleay, C., Comendant, T. and **Sinervo, B.** 2007. An experimental test of frequency dependent selection on male mating strategy in the field. *Proceedings of the Royal Society, London B.* **274**: 2019-2025.
- 67) Calsbeek, R. and **Sinervo, B.** 2007. Correlational selection on lay date and life history traits: Experimental manipulations of territory and nest site quality. *Evolution* **61**: 1071-1083.
- 66) Lancaster, L., McAdam, A., Wingfield, J. and **Sinervo, B.** 2007. Adaptive Social and Maternal Induction of Anti-Predator Dorsal Patterns in a Lizard with Alternative Social Strategies. *Ecology Letters*, **10**: 798-808.
- 65) Meylan, S., Clobert, J., and **Sinervo, B.** 2007. Adaptive significance of maternal induction of density dependent phenotypes. *Oikos* **116**: 650-661.
- 64) Miller, B.L. and **Sinervo, B.** 2007. Heritable body size mediates apparent life history trade-offs in a simultaneous hermaphrodite. *Journal of Evolutionary Biology* **20**: 1554-1562.
- 63) Miles, D. B., Calsbeek, R., and **Sinervo, B.** 2007. Corticosterone, locomotor performance, and metabolism in side-blotched lizards (*Uta stansburiana*). *Hormones and Behavior* **51**: 548-554.
- 62) Miles, D. B., **Sinervo, B.**, Nagy, K., Costa, D., Hazard, L., Svensson E.I. 2007. Relating endocrinology, physiology and behaviour using species with alternative mating strategies *Functional Ecology* **21**: 653-665.
- 61) **Sinervo, B.**, Heulin, B., Surget-Groba, Y., Clobert, J., Corl, A., Chaine, A., and Davis, A. 2007. Models of density-dependent genic selection and a new Rock-Paper-Scissors social system. *The American Naturalist*, 170: 663-680.
- 60) Bleay, C. and **Sinervo, B.** 2006. Discrete genetic variation in mate choice and a condition dependent preference function in the side blotched lizard: Implications for the formation and maintenance of co-adapted gene complexes. *Behavioral Ecology* **18**: 304-310.
- 59) **Sinervo, B.** and Calsbeek, R. 2006. The developmental and physiological causes and consequences of frequency dependent selection in the wild. *Annual Review of Ecology and Systematics* **37**: 581-610.
- 58) **Sinervo, B.**, Calsbeek, R., Comendant, T., Both, C., Adamopoulou, C. and Clobert, J. 2006b. Genetic and maternal determinants of effective dispersal: the effect of sire genotype and size at birth in side-blotched lizards. *The American Naturalist* **168**: 88-99.
- 57) **Sinervo, B.**, Chaine, A., Clobert, J., Calsbeek, R., McAdam, A., Hazard, H., Lancaster, L., Alonzo, S., Corrigan, G., and M. Hochberg. 2006. Self-recognition, color signals and cycles of greenbeard mutualism and transient altruism. *Proceedings of the National Academy of Sciences (U.S.A.)*. **102**: 7372-7377.
- 56) Vercken, E., Massot, M., **Sinervo, B.**, and Clobert, J. 2006. Colour polymorphism and alternative reproductive strategies in females of the common lizard *Lacerta vivipara*. *Journal of Evolutionary Biology*, **20**: 221-232.

55 other articles prior to 2005

Books in preparation

- 1) **Sinervo, B.** *Behavioral Ecology: Genetics and Culture*. Text book with companion CD-ROM. Chapters 1-20 completed (proofing phase), CD-ROM scripting routines complete. Prentice Hall, New Jersey. (in prep.) online pdfs:
- 2) Friedman, D. and **Sinervo, B.** Evolutionary games in Nature, Computers and Society, in prep.

Books

Co-Editor of book:

- 1) *Adaptive Genetic Variation in the Wild*. T.A. Mousseau, **B. Sinervo**, and J.A. Endler, eds. 2000. Oxford University Press, New York. 265 pages

Book Chapters or Book Sections (all peer-reviewed) in the past 5 years (a total of 16 book chapters)

- 16) **B. Sinervo** and L. T. Lancaster. 2010. Epistatic Social and Endocrine Networks and the Evolution of Life History

Trade-offs and Plasticity, In T. Flatt and A. Heyland, Life history trade-offs: A molecular perspective. Oxford Univ. Press. in A. Heyland, and T. Flatt, eds. Molecular mechanisms of Life History Evolution. Oxford University Press, Oxford, UK.

15) **Sinervo, B.** and D. B. Miles. 2010. Hormones and behavior of reptiles. In R. Nelson and K. Lopez (ed) Hormones and Behavior of Vertebrates. Academic Press.

14) Clobert, J. and **Sinervo B.** 2010. Co-Editors of a textbook section on *Phenotypic Plasticity*, with contributed sections by A. Chaine (Introduction), B. Ernande (Theory), E. Danchin (Information), **B. Sinervo** and J. Clobert (Development, Evolution, and Genetics of Plasticity). Biology textbook, in prep.

13) **Sinervo, B.**, and Calsbeek, R. 2010. Behavioral concepts of selection: experiments and genetic causes of selection on the sexes. In *Evolutionary Behavioral Ecology*. D. Westneat, and C. Fox (eds). Oxford University Press, Oxford, UK.

12) **Sinervo, B.**, and Clobert, J. 2008. Life history strategies, multidimensional trade-offs and behavioural syndromes. (in press) In *Behavioral Ecology: An Evolutionary Perspective on Behaviour* (E. Danchin, L.-A. Giraldeau, and F. Cézilly (eds). Oxford University Press, Oxford, UK.

11) Calsbeek, R. and **Sinervo, B.** 2008. Alternative reproductive tactics in reptiles. In *Alternative reproductive tactics*. Edited by J. Brockmann, L. Oliveira, M. Taborsky (in press).

10 other book chapters prior to 2005

Book Reviews

4) **Sinervo, B.** 2005. The genesis and maintenance of phenotypic plasticity, Review of the Book: *Phenotypic Plasticity: Functional and Conceptual Approaches* by T. J. DeWitt and S. Scheiner *Bioscience*. 55:704-706.

3) **Sinervo, B.** 1995. Review of *Ecological Morphology: Integrative Organismal Biology*, by P.C. Wainwright and S.M. Reilly. Trends in Ecology and Evolution.

2) **Sinervo, B.** 1995. Review of *The Evolution of Life Histories: Theory and Analysis*, by D.A. Roff. Animal Behavior.

1) **Sinervo, B.** 1992. Comparative oology review of *Egg Incubation: Its Effects of Embryonic Development I Birds and Reptiles*, by D.C. Deeming and M.W.J. Ferguson. Science.

Invited Plenary and Keynote lectures (7), Seminars and Symposia

1989-2009: 89 presentations

Community Service

2001-2003 Board Member, Environmental Council, Santa Cruz

2002-2003 Consulting for Nisene2Sea Greenspace Alliance

Scientific Expeditions and Field Work

2008 3 expeditions to Mexico: States of Coahuila, Mexico, Hidalgo, D.F., Yucatan,

2003-2008 Massif Central and Pyrenees, France, field research on the common lizard with Jean Clobert (CNRS Paris) and Benoit Huelin (CNRS Paimpont) (May-July)

2002 (9/2002) Milos Island, Greece, field on *Podarcis milensis* with C. Adamopoulou

2002 (6-8/2002) Pyrenees, Massif Central France, Italian Alps, Belgium, Germany, Finland, field work on the common lizard with Jean Clobert (CNRS Paris) and Benoit Huelin (CNRS Paimpont)

2001 (7-9/2001) Massif Central France, fieldwork on the common lizard with Jean Clobert (CNRS Paris)

2000 (7/2000) Sea of Cortez, Mexico (Shipboard Naturalist)

Collaborators and Advisors (not listed in publications):

John Wiens (SUNY), Tod Reeder (Cal State San Diego), James Archie (Cal State Long Beach), Eric Smith (UT Arlington), S. Brown (Centre Nationale pour les Réserches Scientifique, Montpellier Univ.), J. Clobert (Centre Nationale pour les Réserches Scientifique, Paris), M. Hochberg (Centre Nationale pour les Réserches Scientifique, Montpellier Univ.), J. Mappes & T. Mappes (Jyväskylä Univ., Finland).

PhD Advisor: R. B. Huey (U. Washington); **Postdoctoral:** M. Wake & P. Licht (UC, Berkeley)

Graduate Advisees (20, most at UCSC, unless otherwise stated): E. Baastians, C. Bleay (Univ. Bristol, UK), Y. Brandt (Indiana Univ.), R. Calsbeek, S. Chamille, T. Comendant, A. Corl, G. Corrigan, A. Davis, D. DeNardo (UC Berkeley), P. Doughty (Univ. Tennessee), W. Frankino (Indiana Univ.), C. Hipsley, H. Imbert (Univ. Paris 8), M. Klukowski (Indiana Univ.), L. Lancaster, M. Mulks, M. Vercken (Univ. Paris 8), B. Weaver, K. Zamudio (U of W).

Post-Doctoral Advisees (10, UCSC unless otherwise stated): C. Adamopoulou, C. Both (Groenigen University, Netherlands), L. Hazard, S. Kuchta, S. Mills (Jyvaskyla University, Finland), A. McAdam, D. Paranjpe, R. Repasky, E. Svensson, K. Zamudio.

A handwritten signature in black ink, appearing to read "Barry Sinervo". The signature is fluid and cursive, with the first name "Barry" and last name "Sinervo" clearly distinguishable.

Dr. Barry Sinervo