

BLAIR OLIVER WOLF
Associate professor
September, 2009

Contact information

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MCS03-2020
1 University of New Mexico
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Research Interests

Animal physiological ecology; effects of climate change on animal function; isotopic ecology; effects of climate variability on food webs and animal distributions; functional importance of columnar cacti to consumers; avian natural history, reproductive biology, and habitat selection.

Educational history

- 1996 Ph.D. Zoology, May, 1996, Arizona State University, Tempe, AZ, Life in the heat: physiological responses and behavioral adjustments of a small desert bird, (Glenn E. Walsberg, advisor).
- 1991 M.A. Biology, December, 1991, California State University, San Jose, CA, The reproductive biology and natural history of the Black Phoebe (*Sayornis nigricans*) in central California, (L. Richard Mewaldt, advisor).
- 1987 B.S. Biology (Zoology), May, 1987, California State University, San Jose, CA.

Employment history

- 2006- Associate Professor, Department of Biology, The University of New Mexico, Albuquerque, NM.
- 2000-2006 Assistant Professor, Department of Biology, The University of New Mexico, Albuquerque, NM.
- 1997-2000 Postdoctoral Research Associate, Department of Ecology and Evolutionary Biology, The University of Arizona, Tucson, AZ. (Carlos Martínez del Río, advisor).
- 1996-98 National Science Foundation Postdoctoral Research Fellow in the Biosciences related to the Environment, Department of Physiology, The University of Arizona Health Sciences Center, Tucson, AZ. (Eldon Braun, advisor).
- 1990-96 Graduate Research Associate, Department of Zoology, Arizona State University, Tempe, AZ.
- 1987-90 Wildlife/Bird Banding Biologist, Coyote Creek Riparian Station, Alviso, CA.
- 1987-90 Graduate Teaching Assistant, Department of Biological Sciences, California State University, San Jose, CA.
- 1975-81 Nuclear Propulsion Plant Operator, Electrician's mate 1st Class, Scuba Diver, United States Navy.

PUBLICATIONS

Manuscripts in review

39. Warne, R. A., C. A. Gilman and B. O. **Wolf** (in revision) Tissue carbon incorporation rates are dramatically slower in ectotherms than in endotherms: implications for ecological studies using stable isotopes in reptiles. **Physiological and Biochemical Zoology**.
38. Lease, H. M. and B. O. **Wolf**. (in revision) Exoskeleton scales isometrically with body size in terrestrial insects. **Journal Morphology**.

Peer-reviewed Publications

37. Mckechnie, A. E. and B. O. **Wolf**. (in press) Climate change increases the likelihood of catastrophic avian mortality events during extreme heat waves. **Biology Letters**
36. Warne, R., A. D. Pershall and B. O. **Wolf**. (in press) Linking climate dynamics and primary production to the pathways of carbon flow in higher trophic level consumers in a desert grassland-shrubland. **Ecology**.
35. Engel, S., H. M. Lease, N. G. McDowell, Alyssa H. Corbett and B. O. **Wolf**. (2009) The use of tunable diode laser spectroscopy to measure $\delta^{13}\text{C}$ of animal breath for studies of animal physiology and ecology. **Rapid Communications in Mass Spectroscopy** 23:1281-1286
34. Gilman, C. A., E. C. Toolson and B. O. **Wolf**. (2008) Effects of temperature on the behavior of *Trimerotropis pallidipennis* (Orthoptera, Acrididae). **The Southwestern Naturalist** 53:162-168.
33. Gilman, C. A. and B. O. **Wolf**. (2007) Using portable ultrasonography as a non-destructive method for estimating reproductive effort in lizards. **The Journal of Experimental Biology** 210:1859-1867.
32. Lease, H. M., B. O. **Wolf** and J. F. Harrison (2006) Intraspecific variation in tracheal volume in the American locust (*Schistocerca americana*) measured by a new inert gas method. **The Journal of Experimental Biology** 209:3476-3481.
31. Meehan, T., H. lease, and B. O. **Wolf**. (2005) Negative indirect effects of an avian insectivore on the fruit set of an insect-pollinated herb. **Okios** 109:297-304.
30. Martínez del Río, C. and B. O. **Wolf**. (2005) Mass-balance models for animal isotopic ecology. M. Stark (ed.) *In Physiological and Ecological Adaptations to Feeding in Vertebrates*. Science Publishers, INC. Enfield, NH, USA. pages 141-174. Cited by 16.
29. Carlton, S. A., B. O. **Wolf** and C. Martínez del Río. (2004) Keeling plots for hummingbirds: a field method to estimate carbon stable isotope ratios of respired CO_2 in small vertebrates. **Oecologia** 141:1-6. Cited by 6.
28. Mckechnie, A. E., B. O. **Wolf** and C. Martínez del Río. (2004) Deuterium stable isotope ratios as tracers of water resource use: an experimental test with rock doves. **Oecologia** 140:191-200. Cited by 15.
27. Mckechnie, A. E. and B. O. **Wolf**. (2004a) Partitioning of evaporative water loss in White-winged Doves: plasticity in response to short-term thermal acclimation. **The Journal of Experimental Biology** 207:203-210. Cited by 12.
26. Mckechnie, A. E. and B. O. **Wolf**. (2004b) Solar radiation and the energetic cost of rewarming from torpor. *In* Barnes, B. M. and Carey, H. V. (eds.) **Life in the cold: Evolution, Mechanisms, and Application**. 12th International Hibernation Symposium. Biological papers of the University of Alaska, No. 27. pages 63-70.
25. Mckechnie, A. E. and B. O. **Wolf**. (2004c) The energetics of the rewarming phase of avian torpor. *In* Barnes, B. M. and Carey, HV (eds.) **Life in the cold: Evolution, Mechanisms, and Application**. 12th International Hibernation Symposium. Biological papers of the University of Alaska, No. 27. pages 265-273.

24. McKechnie, A. E. and B. O. **Wolf**. (2004d) The allometry of avian basal metabolic rate: good predictions need good data. **Physiological and Biochemical Zoology** 77:502-521. Cited by 52.
23. Smith, R. B., E. C. Greiner, and B. O. **Wolf**. (2004) Migratory movements of Sharp-shinned Hawks in relation to prevalence, intensity and biogeography of avian hematozoan parasites. **The Auk** 121:837-846. Cited by 5.
22. Smith, R. B., T. Meehan, and B. O. **Wolf**. (2003) Assessing migration patterns of sharp-shinned hawks (*Accipiter striatus*) using stable-isotope and band encounter analysis. **The Journal of Avian Biology** 34:387-392. Cited by 17.
21. Cryan, P. and B. O. **Wolf**. (2003) Metabolism and evaporative water loss in hoary bats (*Lasiurus cinereus*): affects of temperature and sex. **The Journal of Experimental Biology** 206:3381-3390. Cited by 13.
20. **Wolf**, B. O. and C. Martínez del Río. (2003) How important are columnar cacti as sources of water and nutrients for desert consumers? A review. **Isotopes in Environmental and Health Studies** 39:53-67. Cited by 8.
19. **Wolf**, B. O., C. Martínez del Río and J. Babson. (2002) Stable isotopes reveal that saguaro fruit provides different resources to two desert dove species. **Ecology** 83:1286-1293. Cited by 15.
18. **Wolf**, B. O. and G. E. Walsberg. (2000) The role of the plumage in heat transfer processes in birds. **American Zoologist** 40:575-584. Cited by 11.
17. **Wolf**, B. O. and C. Martínez del Río. (2000) Use of saguaro fruit by White-winged Doves: isotopic evidence of a tight ecological association. **Oecologia** 124:536-543. Cited by 32.
16. **Wolf**, B. O. (2000) Global warming and avian occupancy of hot deserts; a physiological and behavioral perspective. **Revista Chilena de Historia Natural** 73:395-400. Cited by 7.
15. **Wolf**, B. O., K. M. Wooden and G. E. Walsberg. (2000) Effects of complex radiative and convective environments on the thermal biology of the White-crowned Sparrow (*Zonotrichia leucophrys gambelii*). **The Journal of Experimental Biology** 203:803-811. Cited by 9.
14. **Wolf**, B. O. and S. L. Jones. (2000) Vermilion Flycatcher (*Pyrocephalus rubinus*). In **The Birds of North America**. No. 484 (A. Pool and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D. C., The American Ornithologists' Union. Cited by 4.
13. Shukman, J. and B. O. **Wolf**. (1998) Say's Phoebe (*Sayornis saya*). In **The Birds of North America**. No. 374 (A. Pool and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D. C., The American Ornithologists' Union. Cited by 4.
12. **Wolf**, B. O., G. E. Walsberg and M. Stanisick. (1997) Quantifying the behavior of free-living animals: integration of binoculars and palmtop computer. **The Journal of Field Ornithology** 68:173-177.
11. Walsberg G. E., T. Weaver and B. O. **Wolf**. (1997) Seasonal adjustment of solar heat gain independent of coat coloration in a desert mammal. **Physiological Zoology** 70:150-157. Cited by 9.
10. **Wolf**, B. O. (1997) Black Phoebe (*Sayornis nigricans*). In **The Birds of North America**. No. 268 (A. Pool and F. Gill, Eds.). Philadelphia, The Academy of Natural Sciences; Washington, D. C., The American Ornithologists' Union. Cited by 3.
9. **Wolf**, B. O. and G. E. Walsberg. (1996) Thermal effects of radiation and wind on a small bird and implications for microsite selection. **Ecology** 77:2228-2236. Cited 45 times.
8. **Wolf**, B. O. and G. E. Walsberg. (1996) Respiratory and cutaneous evaporative water loss at high environmental temperatures in a small bird. **The Journal of Experimental Biology** 199:451-457. Cited by 23.
7. **Wolf**, B. O., K. M. Wooden, and G. E. Walsberg. (1996) The use of thermal refugia by two small desert birds. **The Condor** 98:424-428. Cited by 10.
6. Walsberg G. E. and B. O. **Wolf**. (1996) An appraisal of operative temperature mounts as tools for studies of ecological energetics. **Physiological Zoology** 69:658-681. Cited by 15.

5. Walsberg G. E. and B. O. **Wolf**. (1996) A test of the accuracy of operative temperature thermometers for studies of small ectotherms. **The Journal of Thermal Biology** 21:275-281. Cited by 11.
4. Walsberg G. E. and B. O. **Wolf**. (1995) Variation in the respiratory quotient of birds and implications for indirect calorimetry using measurements of carbon dioxide production. **The Journal of Experimental Biology** 198:213-219. Cited by 32.
3. Walsberg G. E. and B. O. **Wolf**. (1995) Solar heat gain in a desert rodent: unexpected increases with wind speed and implications for estimating the heat balance of free-living animals. **Journal of Comparative Physiology B** 165:306-314. Cited by 10.
2. Walsberg G. E. and B. O. **Wolf**. (1995) Effects of solar radiation and wind speed on metabolic power consumption by two mammals with contrasting coat colors. **The Journal of Experimental Biology** 198:1499-1507.
1. **Wolf**, B. O. and S. L. Jones. (1989) Great Blue Heron deaths caused by predation on pacific lamprey. **The Condor** 91:482-484. Cited by 4.

Other writings

- Wolf, C. J. and B. O. **Wolf**. (in press) The Prairie Falcon, *In The Raptors of New Mexico*. The University of New Mexico Press. Albuquerque.
- Martínez del Río, C., B. O. **Wolf** and R. Haughey. (2004) Saguaros and White-winged Doves: the natural history of an uneasy partnership. Chapter 7. G. Nabhan (ed.) *In Conserving migratory pollinators and nectar corridors in Western North America*. Arizona-Sonora Desert Museum Studies in Natural History. The University of Arizona Press. Tucson. pages 122-143.
- Wolf**, B. O. and C. Martínez del Río. (2002) Saguaro feeding by desert birds: an ABA-supported project. **Birding Magazine**, August, pages 324-325.
- Rigney, M., L. R. Mewaldt, B. O. **Wolf**. and R. Duke. (1989) Wildlife monitoring of a riparian mitigation site. Proceeding of the California Riparian Systems Conference, 22-24 September 1989, USDA Forest Service Gen. Tech. Rep. PSW-110, pages 319-324.

RESEARCH FUNDING

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| 2009-2010 | Use of wildlife water developments by the bird and bat community on the KOFA National Wildlife Refuge, Arizona. Arizona Game and Fish Department, 4/1/2009-2/1/2010, \$65,000. |
| 2008-2010 | Desert Tortoises as walking tree rings: evaluating the effects of climate and resource variability on tortoise growth and survival using stable isotopes. Ian Murray, Ph.D. Candidate, Co-PI, Arizona Game and Fish Department, 9/2008-9/2010, \$59,543. |
| 2008-2009 | Use of wildlife water developments by the bird and bat community on the KOFA National Wildlife Refuge, Arizona. Arizona Game and Fish Department, 4/1/2008-2/1/2009, \$74,999. |
| 2007-2009 | Linking nutrient flux in a desert food web to the allocation dynamics in lizards: combining stable isotopes and ecological stoichiometry. Doctoral Dissertation Improvement Grant, R. Warne and B. O. Wolf CO-PIs, National Science Foundation, 6/15/2007- 5/31/2009, DEB-0710128, \$11,987. |
| 2007-2008 | A preliminary investigation of the use of wildlife water developments by the bird and bat community on the KOFA National Wildlife Refuge, Arizona, Arizona Game and Fish Department. 6/1/2007-2/1/2008, \$55,900. |
| 2002-2006 | Columnar cacti; a critical resource for avian consumers? Quantifying avian community responses and nutrient fluxes in natural and experimental settings, B. O. Wolf PI, |

- National Science Foundation, Ecology Panel, DEB-0213659, 9/01/2002- 8/31/2006, \$330,000. REU supplements in 2003, 2004, 2005, 2006.
- 2004-2006 Using portable ultrasonography to quantify life history traits and energetic status of small animals in the field. B. O. Wolf PI, National Science Foundation, (SGER) Small grant for exploratory research, Ecological and Evolutionary Physiology Panel, 6/01/04-11/30/06, IBN-0426764, \$56,492. REU supplement in 2005.
- 2002-2006 Sevilleta LTER VI, S. L. Collins, PI, C. Dahm, R. R. Parmenter, W. T. Pockman, B. O. Wolf, and T. L. Yates CO-PIs, National Science Foundation, 10/15/2002- 10/14/2006, \$2,600,000.
- 2002-2003 Research Starter Grant, B. O. Wolf PI, National Science Foundation, Ecological and Evolutionary Physiology Panel. 6/01/2002- 5/31/2003, IBN-0217670, \$35,000.
- 2001 Role of the saguaro cactus to the nutrition and water economy of a Sonoran Desert bird community, B. O. Wolf PI, Research allocation award, The University of New Mexico, 3/10/2001-9/30/2001, \$7500.
- 1999-00 Avian dependence on saguaro: why saguaro conservation is a priority for bird conservation, B. O. Wolf and C. Martínez del Río CO-PIs, American Birding Association Conservation Grant, 4/15/1999- 12/15/2000, \$15,000.
- 1999-02 Conserving migratory pollinators and their nectar corridors, Turner Foundation Conservation Grant, Arizona-Sonora Desert Museum, C. Martínez del Río and B. O. Wolf CO-PIs, \$45,000.
- 1998 Saguaros as resources: stable isotopes as ecological tracers, C. Martínez del Río and B. O. Wolf CO-PIs, University of Arizona small grants program, \$5000.
- 1998 Isotopic ecology of a desert resource/consumer system: the saguaro and White-winged Dove, B. O. Wolf PI, Forest Shreve Desert Research Award, The Ecological Society of America, \$1000.
- 1996-98 The control and regulation of cloacal and colonic motility in birds, Postdoctoral Research Fellowship in the Biosciences related to the Environment, National Science Foundation, B. O. Wolf PI, 7/01/1996- 6/30/1998, BIR 9627541, \$80,000.
- 1993-96 The water economy of desert birds, Doctoral Dissertation Improvement Grant, National Science Foundation, Ecological and Evolutionary Physiology Panel, G. E. Walsberg and B. O. Wolf CO-PIs, 3/01/1993- 8/31/1996, IBN-9224130, \$14,657.
- 1993 Water economy of desert birds, B. O. Wolf PI, Chapman Memorial Fund Grant, American Museum of Natural History, \$400.

Invited oral presentations at other institutions

2009

Avian mortality during heat waves and drought: the role of climate change and extreme events. Wolf, B. O. and A. E. Mckechnie, Desert Dynamics Conference, Arizona State University, Tempe, AZ .

2008

Pulsed resources and carbon flow through a desert food web: the influence of short and long-term climate variability, Division of Biology, Kansas State University, Manhattan.

2007

Are saguaros a “keystone” resource for consumers? an isotopic view of a plant- animal interaction, Department of Biology, University of California, Riverside.

Seasonal and annual shifts in pathways of carbon flow through a arid grassland-shrubland food web, Department of Biology, University of California, Riverside.

2006

Are saguaros a “keystone” resource for consumers? an isotopic view of a plant- animal interaction, Department of Biology, University of Western Ontario, Ontario, Canada.

Are saguaros a “keystone” resource for consumers? an isotopic view of a plant- animal interaction, School of Life Sciences, Arizona State University, Tempe AZ.

Avian community ecology in a hot desert; abiotic drivers and biotic interactions, Department of Biology and Wildlife, University of Alaska, Fairbanks. Fairbanks AK.

2005

Avian community ecology in a hot desert; abiotic drivers and biotic interactions, Department of Biology, University of Oklahoma, Norman.

Avian community ecology in a hot desert; abiotic drivers and biotic interactions, Department of Biology, University of Nevada, Reno.

2004

Columnar cacti: a keystone resource for avian consumers?, Department of Natural Resources and Environmental Science, University of Nevada, Reno.

Nutrient dynamics in a desert bird community; the functional importance of columnar cacti, Instituto de Biología, Universidad Nacional Autónoma de México, México DF.

Columnar cacti: a keystone resource for avian consumers?, Department of Biology, New Mexico State University, Las Cruces, NM.

2003

Columnar cacti: a keystone resource for avian consumers?, Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara, CA.

2000

From heat transfer to nutrient fluxes: the physiological ecology of desert birds, Department of Biology, The University of New Mexico, Albuquerque, NM.

From heat transfer to nutrient fluxes: the physiological ecology of desert birds, Department of Biology, Wright State University, Dayton, OH.

From heat transfer to nutrient fluxes: the physiological ecology of desert birds, Department of Biology, The University of Memphis, Memphis, TN.

1999

From heat transfer to nutrient fluxes: the physiological ecology of desert birds, Department of Zoology, The University of Florida, Gainesville, FL.

1997

Physiological consequences of microsite selection in the Verdin, Department of Ecology and Evolutionary Biology, The University of Arizona, Tucson, AZ.

Physiological consequences of microsite selection in the Verdin, Department of Physiology, The University of Arizona School of Medicine, Tucson, AZ.

Contributed oral and poster presentations at professional meetings (*presenter)

2009

Avian mortality during heat waves and drought: the role of climate change and extreme events. Wolf, B. O. and A. E. McKechnie, 94th ESA Annual Meeting, Albuquerque, NM, August 2-7.

Avian mortality during heat waves and drought: the role of climate change and extreme events. Wolf, B. O. and A. E. McKechnie, 79th Annual Meeting of the Cooper Ornithological Society, Tucson, AZ, April 16-18.

Exploring the nutritional ecology of the ornate box turtle in New Mexico via stable isotope analyses, *Murray, I. W. and B. O. Wolf, Society of Integrative and Comparative Biology Annual Meeting,

Boston, MA, January 3-7.

Is avian migration in the American Southwest timed to the bloom of columnar cacti?, *Engel, S., Hyde, T. and B. O. Wolf, Society of Integrative and Comparative Biology Annual Meeting, Boston, MA, January 3-7.

2008

Linking pulsed precipitation and C₃ - C₄ primary production to resource dynamics in higher trophic level consumers, *Warne, R. W., A. D. Pershall, and B. O. Wolf, Isotope Ecology VI Conference. Honolulu, HI. August 24-29.

Quantifying the resource dynamics of a Sevilleta LTER lizard community: coupling abiotic drivers and ecosystem productivity, *Warne, R. W., A. D. Pershall, and B. O. Wolf, Regional LTER Symposium. Albuquerque, NM, July 11-13.

Small mammal utilization of pulsed resources quantified through stable isotope analysis, *Pershall, A. D., R. W. Warne, and B. O. Wolf, Regional LTER Symposium, Albuquerque, NM, July 11-13.

Tracking the nutritional ecology and dietary history of chelonians via stable isotope analyses, *Murray, I. W. and B. O. Wolf, Regional LTER Symposium, Albuquerque, NM, July 11-12.

Tracking the nutritional ecology and dietary history of chelonians via stable isotope analyses, *Murray, I. W. and B. O. Wolf, 33rd Annual Symposium of the Desert Tortoise Council, Las Vegas, NV, February 22-25.

Reproductive allometry and the size/number trade-off for lizards, *Warne, R. W., E. L. Charnov, and B. O. Wolf, Society of Integrative and Comparative Biology Annual Meeting, San Antonio, TX, January 2-6.

Exoskeletal Isometry in adult terrestrial insects, *Lease, H. M. and B. O. Wolf, Society of Integrative and Comparative Biology Annual Meeting, San Antonio, TX, January 2-6.

The burden of gravity in lizards: changes in cardio-respiratory function associated with reduced lung volume (preliminary results), *Gilman, C. A. and B. O. Wolf, Society of Integrative and Comparative Biology Annual Meeting. San Antonio, TX. January 2-6.

Climate change, ecosystem productivity, and tracking resources through consumers and food webs, Wolf, B. O., R. W. Warne, Pershall, A. D. and S. Engel, Society of Integrative and Comparative Biology Annual Meeting. San Antonio, TX. January 2-6.

Small mammal utilization of pulsed resources quantified through stable isotope analysis, *Pershall, A. D., R. W. Warne, and B. O. Wolf, Society of Integrative and Comparative Biology Annual Meeting. San Antonio, TX. January 2-6.

Tracking the dietary history of chelonians via stable isotope analyses, *Murray, I. W. and B. O. Wolf, Society of Integrative and Comparative Biology Annual Meeting, San Antonio, TX, January 2-6.

Using portable ultrasonography to examine the dynamics of reproduction in *Neotoma lepida* in Death Valley, CA, *Mathiasen, C. C., I. W. Murray, B. O. Wolf and F. A. Smith, Society of Integrative and Comparative Biology Annual Meeting, San Antonio, TX, January 2-6.

The utilization of pulsed resources by a grasshopper community as quantified from breath $\delta^{13}\text{C}$ using tunable diode laser absorption spectroscopy, *Engel, S., N. G. McDowell, and B. O. Wolf, Society of Integrative and Comparative Biology Annual Meeting, San Antonio, TX, January 2-6.

2007

Using stable isotope approaches to trace pathways of carbon flow through a food web; responses to short and long-term climate variability, *B. O. Wolf, R. Warne, S. Engel and I. Murray, Joint symposium on Long Term Ecological Research Programs in New Mexico, New Mexico State University, 12 July.

The use of stable isotope approaches to answer questions about avian movements, physiology, behavior and ecology, *B. O. Wolf, workshop organizer and speaker: The use of stable isotope approaches to

answer questions about avian movements, physiology, behavior and ecology, 77th Annual meeting of the Cooper Ornithological Society, Moscow, Idaho, 20-23 June.

Nutritional ecology of chelonians via stable isotope analysis, *I. Murray and B. O. Wolf, 2007 Joint Meeting of Ichthyologists and Herpetologists, St. Louis, MO, 11-16 July.

Small mammal utilization of pulsed resources quantified through stable isotope analysis. *A. Pershall, R. Warne and B. O. Wolf, 87th Annual Meeting of the American Society of Mammalogists, Albuquerque, NM, 6-10 June.

Portable ultrasonography: developing non-destructive techniques for quantifying reproductive effort under field conditions, *C. C. Mathiasen, I. Murray, B. O. Wolf, F. A. Smith. 87th Annual Meeting of the American Society of Mammalogists, Albuquerque, NM, 6-10 June.

2006

The importance of columnar cacti to avian consumers in the Sonoran Desert. *B. O. Wolf, A. E. Mckechnie, R. Warne and C. C. Mathiasen. The 4th North American Ornithological Congress. Veracruz, Mexico, 3-8 October.

Quantifying the resource dynamics of a Sevilleta LTER lizard community: Coupling abiotic drivers and ecosystem productivity. *R. Warne, A. Pershall and B. O. Wolf. LTER All Scientist Meeting, Estes, CO, 20-24 September.

Lizards, eggs, and ultrasound: testing the efficacy of quantifying reproductive effort in squamate reptiles using portable ultrasonography. *Gilman, C. and B. O. Wolf. Joint Meeting of Ichthyologists and Herpetologists, New Orleans, LA, 12-17 July.

The importance of cacti to consumers in a desert food web. *B. O. Wolf, A. E. Mckechnie, R. Warne and C. C. Mathiasen. The 5th international conference on the application of stable isotope techniques to ecological studies, Belfast, Northern Ireland, 13-18 August.

Lizard life history strategies and population dynamics under a regime of pulsed resources. *Warne, R., D. Lightfoot and B. O. Wolf. Society for Integrative and Comparative Biology Annual Meeting, Orlando, FL, 4-8 January.

Lizards, eggs, and ultrasound: testing the efficacy of quantifying reproductive effort in squamate reptiles using portable ultrasonography. *Gilman, C. and B. O. Wolf. Society for Integrative and Comparative Biology Annual Meeting, Orlando, FL, 4-8 January.

Portable ultrasonography— developing a non-invasive technique to quantify reproductive effort in small mammals. *Mathiasen, C. C., C. A. Gilman and B. O. Wolf. Society for Integrative and Comparative Biology Annual Meeting, Orlando, FL, 4-8 January.

2005

Portable ultrasonography— developing a non-invasive technique to quantify reproductive effort in small mammals. *Mathiasen, C. C., C. A. Gilman and B. O. Wolf. 85th Annual Meeting of the American Society of Mammalogists, Southwest Missouri State University, Springfield, MO, 15-19 June.

Ontogeny of tracheal volume in *Schistocerca Americana*. *Lease, H. M., B. O. Wolf and J. F. Harrison. 22nd Annual Physiological Ecology Meeting, Bishop, CA, 3-5 June.

The functional importance of columnar cacti as resources for a desert bird community; an assessment using stable isotopes. *B. O. Wolf, R. Warne and C. C. Mathiasen. 22nd Annual Physiological Ecology Meeting, Bishop, CA, 3-5 June.

Ontogeny of tracheal volume in *Schistocerca Americana*. *Lease, H. M., B. O. Wolf and J. F. Harrison. Society for Integrative and Comparative Biology Annual Meeting, San Diego, CA, 4-8 January.

The functional importance of columnar cacti as resources for a desert bird community; an assessment using stable isotopes. *B. O. Wolf, R. Warne and C. C. Mathiasen. Society for Integrative and Comparative Biology Annual Meeting, San Diego, CA 4-8 January.

Ontogeny of tracheal volume in *Schistocerca Americana*. *Lease, H. M., B. O. Wolf and J. F. Harrison. Society for Integrative and Comparative Biology Annual Meeting, San Diego, CA, 4-8 January.

2004

Water and energy balance of a desert bird community: the importance of columnar cacti. 2004 meeting Southwest Association of Biologists, Southwest Research Station of the American Museum of Natural History, Portal, AZ, 1-2 October

Water and energy balance of a desert bird community: the importance of columnar cacti. 74th Annual Meeting of the Cooper Ornithological Society, La Crosse, WI, 5-9 May.

Nutrient dynamics in a desert bird community; the functional importance of columnar cacti. *B. O. Wolf and A. E. McKechnie, Society for Integrative and Comparative Biology Annual Meeting, New Orleans, LA, 5-9 January.

Meehan, T., *H. Lease, and B. O. Wolf. Indirect effects of an avian insectivore on the fruit set of an insect-pollinated herb. Society for Integrative and Comparative Biology Annual Meeting, New Orleans, LA, 5-9 January.

2003

Stable isotopes as tools for examining the role of "keystone" resources in animal communities. VII Neotropical Ornithological Congress, Termas de Puyehue, Chile, 5-11 October.

Experimental approaches to modeling deuterium fractionation in birds: affects of heat stress and water flux. *A. E. McKechnie, B. O. Wolf and C. Martínez del Río. VII Neotropical Ornithological Congress, Termas de Puyehue, Chile, 5-11 October.

The use of stable isotopes to identify "keystone" resources for wildlife. Annual Conference of the Wildlife Society, Burlington, VT, 6-10 September.

Experimental approaches to modeling deuterium fractionation in birds: affects of heat stress and water flux. *A. E. McKechnie, B. O. Wolf and C. Martínez del Río. Physiological Ecology Meeting, Bishop, CA, 31 May-1 June.

Experimental approaches to modeling deuterium fractionation in birds: affects of heat stress and water flux. *A. E. McKechnie, B. O. Wolf and C. Martínez del Río. Seventy-third stated meeting of the Cooper Ornithological Society, Flagstaff, AZ, 29 April-3 May.

2002

Importance of columnar cacti as nutrient and water resources for desert birds. *B. O. Wolf and C. Martínez del Río, 3rd North American Ornithological Congress, New Orleans, LA, 24-28 September.

Sharp-shinned Hawks use leap frog migration; complementary evidence from banding returns and stable hydrogen isotope analysis of feathers *R. B. Smith and B. O. Wolf, 3rd North American Ornithological Congress, New Orleans, LA, 24-28 September.

Columnar cacti: water and nutrient resources for desert animals, *B. O. Wolf and C. Martinez del Rio, 3rd International Conference on the Applications of Stable Isotope Techniques to Ecological Studies, Flagstaff, AZ, 29 April- 1 May.

2001

Saguaro cacti and the species diversity of a desert bird community: an assessment of water and nutrient resource use with stable isotopes, *B. O. Wolf and C. Martínez del Río, International Conference of Comparative Physiology and Biochemistry "How animals Work", Kasane, Botswana, 18-24 August.

Using stable isotope approaches to explore animal physiological ecology, Society for Integrative and Comparative Biology Annual Meeting, Chicago, Il, 3-7 January.

2000

Use of saguaro fruit by White-winged Doves: isotopic evidence of a tight ecological association, *B. O. Wolf and C. Martínez del Río, Society for Integrative and Comparative Biology Annual Meeting, Atlanta, GA, 4-8 January.

1999

Behavioral and physiological responses of birds to hot desert environments, Invited symposia speaker in *The physiology of birds in extreme environments*. VIth Neotropical Ornithological Congress. Monterrey Y Saltillo, Mexico, 4-10 October.

Isotopic ecology of a plant resource -consumer system: the saguaro and White-winged Dove, *B. O. Wolf and C. Martínez del Río, Annual Ecophysiology Meeting, Bishop, CA, 4-7 June.

Importance of columnar cacti as water and nutrient resources for desert birds, *J. Babson (undergraduate presenter), B. O. Wolf and C. Martínez del Río, 117th meeting of the American Ornithologists Union, Ithaca, NY, 10-14 August.

Isotopic ecology of a plant resource -consumer system: the saguaro and White-winged Dove, *B. O. Wolf and C. Martínez del Río, Society for Integrative and Comparative Biology Annual Meeting, Denver, CO, 6-10 January.

The role of the plumage in heat transfer processes in birds, Invited symposia speaker in *The evolutionary origin of feathers*, *B. O. Wolf and G. E. Walsberg, Society for Integrative and Comparative Biology Annual Meeting. Denver, CO, 6-10 January.

1996

The water economy and behavior of the Verdin during the summer in the Sonoran Desert, Cooper Ornithological Society Annual Meeting, San Diego, CA, 27-31 March.

The influence of solar radiation and wind on thermoregulatory costs in a small bird. Society for Integrative and Comparative Biology Annual Meeting, Albuquerque, NM, 26-30 December.

1995

Partitioning respiratory and cutaneous water loss at high temperatures in a small bird, *B. O. Wolf and G. E. Walsberg, 1st Joint Meeting of the Cooper Ornithological Society and CIPAMEX, Universidad Autonoma de Baja California Sur, La Paz, BCS, 4-9 April.

Partitioning respiratory and cutaneous evaporative water loss at high environmental temperatures in the Verdin (*Auriparus flaviceps*), *B. O. Wolf and G. E. Walsberg, Annual meeting of the American Society of Zoologists, St. Louis, MO, 4-8 January.

1994

The effects of solar radiation and wind speed on the thermal biology of a small bird, *B. O. Wolf and G. E. Walsberg, American Physiological Society Intersociety Meeting, San Diego, CA, 29 October- 2 November.

The effects of solar radiation and wind speed on metabolic rates in the Verdin, a Sonoran Desert bird, *B. O. Wolf and G. E. Walsberg, 1st Joint Meeting of the American Ornithologists' Union, the Cooper Ornithological Society and the Wilson Ornithological Society, Missoula, MT, 21-26 June.

Presentations to other audiences

2006

New Mexico Audubon Society, Are saguaros a “keystone” resource for consumers? an isotopic view of a plant- animal interaction. Albuquerque, NM.

Western Bird Banding Association annual meeting, Keynote address, Are saguaros a “keystone” resource for consumers? an isotopic view of a plant- animal interaction. Albuquerque, NM.

Eisenhower middle school 7th and 8th grade classes, (6 sections) Giant cacti, birds and isotopes; you are what you eat. Albuquerque, NM.

New Mexico Ornithological Society, Are saguaros a “keystone” resource for consumers? an isotopic view of a plant- animal interaction. Albuquerque, NM.

PROFESSIONAL RECOGNITION, HONORS, ETC.

1998 Forest Shreve Desert Research Award, the Ecological Society of America

- 1996 Nominated by Arizona State University Biology Department for the 1997 Council of Graduate Schools/University Microfilms International Distinguished Dissertation Award in the Biological and Life Sciences.
- 1995 Best Student Paper Award, Division of Comparative Physiology and Biochemistry, Annual meeting of the American Society of Zoologists, St. Louis, MO, 4-8 January, 1995.

TEACHING

2008

- Biology undergraduate core, Plant and Animal Structure and Function, Biol. 204L, 4 units, Blair Wolf, David Hanson.
- TIBBS- Topics in Interdisciplinary Biology and Biological Sciences, Biol. 503, 3units, Blair Wolf, Jim Brown, Bob Parmenter (Biology), Sherrie Nelson (Anthropology) Stephanie Forrest (Computer science), Nitant Kenkre (Physics).
- Animal Physiological Ecology, Biol. 502, 3 units, Blair Wolf, Sophia Engel.
- Evolutionary Medicine, Biol 402/502, 3 units, Blair Wolf, Course Coordinator and instructor, Joe Alcock MD, Primary instructor.

2007

- Biology undergraduate core, Plant and Animal Structure and Function, Biol. 204L, 4 units, Blair Wolf, Will Pockman.
- Ecology Graduate Core, Biol. 516, 3 units, Blair Wolf, Felisa Smith, Scott Collins, Jeff Nekola.
- Graduate Field Biology, Biol. 515, 3 units, Bahia Kino, Sonora, Mexico.
- Ornithology, Biol. 486L, 4 units, Blair Wolf, Chris Witt, Sophia Engel.

2006

- TIBBS- Topics in Interdisciplinary Biology and Biological Sciences, Biol. 503, 3units, Blair Wolf, Jim Brown (Biology), Geoffrey West (SFI), Terran Lane (Computer science), Ed Bedrick (Math/Statistics).

2005

- Ornithology, Biol. 486L.
- Biology undergraduate core, Plant and Animal Structure and Function, Biol. 204L, 4 units, Blair Wolf, Will Pockman.
- Life after Grad School, Biol. 502, 1 unit, Blair Wolf, David Hanson, Tina Tackacs-Vesbach, Will Pockman.
- Graduate Field Biology, Biol. 515, 3 units, Bahia Kino, Sonora, Mexico, Blair Wolf, Will Pockman, Scott Collins.

2004

- Ecology Graduate Core, Biol. 516, 3 units, Blair Wolf, Jim Brown, Rick Charnov, Bob Sinsabaugh.

2003

- Ecology Graduate Core, Biol. 516, 3 units, Blair Wolf, Rick Charnov, Scott Collins, Bob Sinsabaugh.
- General Biology, Biol. 122, 4 units.
- Animal Physiology, Biol. 435L, 4 units.

2002

- Ecology Graduate Core, Biol. 516, 3 units, Blair Wolf, Jim Brown, Rick Charnov, Bruce Milne.
- Animal Physiological Ecology, 3 units, Blair Wolf, Eric Toolson.
- Animal Physiology, Biol. 435L, 4 units.

Graduate Field Biology, Biol. 515, 3units, Bahia Kino, Sonora, Mexico, Blair Wolf, Jim Brown, Astrid Kodric-Brown.

2001

Isotopic Ecology Seminar, Biol. 502, 3 units.

Animal Physiology, Biol. 435L, 4 units.

2000

Herpetology, Ecol. 486L, 4 units, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ.

Postdoctoral advisement

Dr. Sophia Engel, March, 2006- August, 2009

Dr. Andrew E. Mckechnie, December 2001 - December 2003, current appointment Associate professor, Department of Zoology and Entomology, University of Pretoria, Pretoria, RSA.

Doctoral advisement (Supervisor)

Active

William Talbot, MD (started Fall 2008)

Chuck Hayes (started Fall 2007)

Cindy C. Mathiasen (started Fall 2004).

Ian Murray (started Fall 2004)

Completed

Robin Warne, Ph.D. December 2008, Dissertation title: Rain, resources and reproduction: Linking resource dynamics in ecological communities to life history trade-offs in lizards.

Hilary M. Lease, Ph.D. July 2008, Dissertation title: Does size matter? The scaling of respiration, energy reserves, and support structures in arthropods.

Timothy D. Meehan, Ph.D. August 2004, Dissertation title: Studies on the energy use, ecological roles and seasonal movements of birds. Assistant Professor, Warren Wilson College, Ashville, North Carolina.

Doctoral advisement (Committee member)

Active

Diana Andres (Astrid Kodric-Brown, supervisor)

J. Tomasz Giermakowski (Howard Snell, supervisor)

Danella Swenton (Astrid Kodric-Brown, supervisor)

Eric Schaad (Steven Poe, supervisor)

Kevin E. McCluney (John Sabo, supervisor- Arizona State University)

Nathan Wolf (Carlos Martínez del Río, supervisor- University of Wyoming)

Completed

Erik B. Erhardt, Ph.D. July 2009, (Ed Bedrick, supervisor), Dept. of Math and Statistics, Dissertation title: SISUS- Stable Isotope Sourcing Using Sampling.

Katherine Thibault, Ph.D. May 2006 (Jim Brown, supervisor) Dissertation title: Temporal dynamics of the structure and composition of a desert rodent community.

Teresa Tibbets, Ph.D. May 2005, (Manual Molles, supervisor) Dissertation title: Nutrient and food web dynamics in cottonwood forests of the Rio Grande.

Hira Walker, Ph.D. May 2005, (Jim Brown, supervisor). Dissertation title: Southwestern avian community organization in exotic *Tamarix*: environmental correlates of geographic and local-scale patterns.

Rick D. Sherwin, Ph.D. August 2003, (Scott Altenbach, supervisor) Dissertation title: On the dynamics of roost use by Townsend's big-eared bat, *Corynorhinus townsendii*.

Paul M. Cryan, Ph.D. May 2003, (Scott Altenbach, supervisor) Dissertation title: Migration and thermoregulation strategies of hoary bats in North America.

Master's advisement (Supervisor)

Active

Theresa Hyde (started Fall 2007)

Rick Winslow (started Fall 2003)

Alaina Pershall (started Spring 2005)

Casey Gilman (started Spring 2006)

Completed

William Neuwirth, M.S. December 2006. Thesis title: The effects of pinon pine die-offs on the abundance and diversity of birds in northern New Mexico.

Teri J. Orr, M.S. July 2007. Thesis title: The importance of cacti as an energy and water resource for a desert rodent community.

Ruth B. Smith, M.S. December 2003. Thesis title: Migratory movements of hatching-year Sharp-shinned Hawks (*Accipiter striatus*) and their potential costs.

Master's advisement (committee member)

Lauren Cleavall, (Kelly Miller, supervisor)

Nick Penderson (Howard Snell, supervisor)

Undergraduate students studying in the lab

2008

Ashley Melendez, Summer 2008, Sevilleta NSF REU.

Emily Stinson, Summer 2008, Sevilleta NSF REU.

Natalie Alberg, Summer 2008, Sevilleta NSF REU.

David Adrian Garcia, NSF UNO.

2007

Aylissa Corbet, Summer 2007, Sevilleta NSF REU.

Hagit Salomon, Summer 2007.

David Adrian Garcia, NSF UNO.

2006

Casey Gilman, Summer 2006, NSF REU.

Theresa Hyde, Summer 2006, Sevilleta NSF REU.

Alex Washburne, Summer 2006, Sevilleta NSF REU.

Hagit Salomon, Summer 2006.

2005

Ola Verplough, Summer 2005

Casey Gilman, NSF SGER.

Valerie Torres, Sevilleta Summer 2005, NSF REU.

Alex Washburne, Summer 2005, NSF REU.

2004

Claire Craig, Summer 2004, NSF REU.

Casey Gilman, Summer 2004, Sevilleta NSF REU.

Cindy Mathiasen, Summer 2004, NSF REU.

2003

Casey Gilman, Summer 2003, Sevilleta NSF REU, with Eric Toolson.

Donna Pham, NSF REU, Summer 2003.

Cindy Mathiasen, NSF REU, Summer 2003.

Josh Nugyen, McNair fellow, Summer 2003, with Eric Toolson.

2002

Katherine F. Smith, Summer 2002.

SERVICE

Manuscript reviewer for:

Ardea, Australian Journal of Zoology, Auk, Biological Reviews, Bioscience, Condor, Comparative Biochemistry and Physiology, Ecology, Frugivory symposia book chapter: Fleshy-Fruited Plants and Frugivores in Desert Ecosystems, Functional Ecology, Journal of Field Ornithology, Journal of Arid Environments, Journal of Animal Ecology, Journal of Avian Biology, Journal of Experimental Biology, Journal of Zoology, PNAS, Physiological and Biochemical Zoology, Oecologia, Western Birds, Wilson Bulletin.

Grant proposal reviewer for:

Israel- US Bi-National Science Foundation, National Science Foundation, DEB- Ecology, IOB- Ecological Biology Cluster Systems Cluster, EAR- Geology and Paleontology, IBN- Ecological & Evolutionary Physiology, National Institutes of Water Resources, National Research Foundation, Republic of South Africa, Murdoch Foundation.

Departmental and university service

2003- Institutional Animal Care and Use Committee.
 2005 Avian Biologist search committee.
 2002 UNM Biology Research Day committee, Chair.
 2001 Plant physiologist search committee.

Professional service

2008- Editorial board member for **Studies in Avian Biology**, The Cooper Ornithological Society.
 2008 Panel member, NSF Doctoral Dissertation Improvement Grant (DDIG) for the Division of Environmental Biology (DEB) spring panel.
 2007 Workshop organizer and speaker: The use of stable isotope approaches to answer questions about avian movements, physiology, behavior and ecology, co-organizers/presenters Scott McWilliams and Keith Hobson, 77th Annual meeting of the Cooper Ornithological Society, 20 June, 2007, Moscow, Idaho.
 2006 Symposia co-organizer and speaker. Avian Ecological and Evolutionary Physiology in the New Millenium, with A. E. McKechnie and S. McWilliams. The 4th North American Ornithological Congress-Wings without borders. 3-8 October, Veracruz, Mexico
 2006 Panel member, NSF population biology and evolutionary ecology (EPE) fall panel.
 2006 Outside committee member for Kevin McCluney, Ph.D. Candidate, Arizona State University, Tempe, AZ.
 2005 Outside examiner for Ph.D. defense of Daniel Mazerolle, Dissertation title: Migratory patterns and physiology of White-crowned Sparrows: inferences from stable hydrogen isotope analyses. University of Saskatchewan, Department of Biology, Saskatoon, Canada.

- 2005-2008 Editorial board member for **Oecologia** (USA). Handling Editor for Animal Isotopic and Physiological Ecology and Terrestrial Invertebrate Ecology.
- 2003 Symposia co-organizer with A.E. McKechnie, Stable isotope approaches in ornithology: new directions and challenges, VII Neotropical Ornithological Congress, 5-11 October, Termas de Puyehue, Chile.
- 2000 - **SORA** (Searchable Ornithological Research Archive) Coordinator.
elibrary.unm.edu/SORA.
- 2002-2005 Elected member, Board of directors, The Cooper Ornithological Society.
- 1999-2007 Chair, Publications committee, The Cooper Ornithological Society.
- 1997 Judge for the Student Showcase sponsored by the Women in Science and Engineering.
- 1995 Physiology/Conservation session chair, 1st Joint Meeting of the Cooper Ornithological Society and CIPAMEX.
- 1995 Reviewer: Science Teaching Reconsidered: A Handbook, Committee on Science Education, National Academy of Sciences.