

**ROBERT A. SCHORR**

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## **Education**

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M.S. Wildlife Biology/Forest Resources, University of Georgia, 1997

B.S. Biological Sciences, University of California, Davis, 1992

## **Professional Experience**

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**Senior Research Associate** Colorado Natural Heritage Program, Colorado State University

**July 2017 – Present**

Design, execute, analyze data from studies to assess population dynamics, ecology, and natural history of various rare and under-studied species in. Develop techniques for understanding ecology of rare and lesser-known species of Colorado and the West. Develop proposals, manage grants, and hire and manage personnel. *Typical annual time budget:* contract development/proposal writing (20%), research and fieldwork design/execution (40%), report writing/presentations (30%), program development (5%), hiring/supervision (5%).

**Founder and Director** Climbers for Bat Conservation, CSU

**February 2014 – Present**

Manage a citizen science project collaborating with rock climbers as an information resource for where bats roost in cracks and crevices. Develop proposals, manage grants, and collaborate with outdoor recreation groups. Currently collaborating with The Access Fund, Petzl Foundation, U.S. Fish and Wildlife Service, and Colorado Parks and Wildlife.

**Research Associate II, III, IV** Colorado Natural Heritage Program, CSU

**July 1997 – June 2017**

See duties above for “Senior Research Associate”

**Research Associate** College of Natural Resources, Utah State University

**February 2016 – February 2017**

Conduct analysis of rare fish mark-recapture data to understand survival and other population parameters. This project was to analyzed data that was being compiled in the newly-developed STReAMS (Species Tagging, Research and Monitoring System) for rare fishes of the Colorado and San Juan rivers watersheds.

**Research Associate** Montana Cooperative Wildlife Research Unit, University of Montana

**March 2012 – March 2013**

Conduct statistical analysis of hunter recruitment and retention in Montana (see *Publications*) and test bird population statistics software.

**Instructor** Dept. of Biology/Dept. of Fish, Wildlife and Conservation Biology, CSU

**August 2003 – May 2011**

Taught undergraduate courses and laboratories in fish and wildlife biology and herpetology.

## **Professional Experience (cont.)**

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**Teaching Assistant** Department of Biology, Colorado State University  
**August 2002 – December 2008**

Taught undergraduate laboratory sections of biology and wildlife biology courses.

**Research and Teaching Assistant** School of Forest Resources, University of Georgia  
**September 1994 – June 1997**

Conducted research on small mammal diversity and abundance in forests being managed for the endangered Red-cockaded Woodpecker.

**Seasonal Wildlife Technician and Wildlife Biologist** Olympic National Park (NPS) and  
U.S. Forest Service (3 National Forests in California)

**June 1990 – August 1993**

Captured and banded Spotted Owls, and conducted surveys for estimating abundance and reproductive success of California and Northern Spotted Owls.

## **Teaching Experience**

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**Instructor**, Colorado State University, Courses: *Introduction to Wildlife Management, Principles of Vertebrate Management, Ichthyology, Herpetology, Laboratory in Ichthyology.*

**Instructor**, Colorado State University, Conservation Leadership through Learning

**Teaching Assistant**, Colorado State University, Courses: *Ornithology, Mammalogy, Biology of Animals, Introductory Biology.*

**Teaching Assistant**, Wildlife Management Institute/Colorado Cooperative Fish and Wildlife Research Unit *2002 Analysis of Encounter Data from Marked Animal Populations: Program MARK Workshop*

## **Peer-reviewed Publications (\*with CSU undergraduate students)**

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\***Schorr, R.A.**, M.D. Matthews, and B. A. Hoover. In review. Bat roosts along cliffs: using rock climbing surveys to understand roosting habitat of bats along the Front Range of Colorado. *Journal of Fish and Wildlife Management*.

\*Phillips, N., and **R. A. Schorr**. In review. Habitat characteristics and occupancy of the ovenbird (*Seiurus aurocapilla*) at the U.S. Air Force Academy. *Southwestern Naturalist*.

**Schorr, R. A.**, and J. L. Siemers. In review. Population dynamics of little brown bats (*Myotis lucifugus*): apparent survival, site fidelity, abundance, and the influence of winter conditions. *Ecology and Evolution*.

\***Schorr, R. A.**, R. Maison, and C. A. Puntteney. 2020. Multi-year occupancy of the hops blue butterfly (*Celastrina humulus*): habitat patch colonization and extinction. *Journal of Insect Conservation* 24:927-934.

**Schorr, R. A.**, and B. S. Mihlbachler. 2018. Understanding habitat quality for Preble's meadow jumping mouse (*Zapus hudsonius preblei*): how survival responds to vegetation structure and composition. *Journal of Fish and Wildlife Management* 9:545-553.

\*Kubik, T. D., and **R. A. Schorr**. 2018. Facultative myrmecophily in the hops blue butterfly, *Celastrina humulus* (Lepidoptera: Lycaenidae). *Entomological News* 127:490-498.

Davis, S. K., **R. Schorr**, and B. Kuhn. 2017. Climbers for Bat Conservation: methods in forming a novel partnership. Pp. 81-94 in (C. Ward, ed) *Wildlife: Perceptions, Threats, and Conservation*. Nova Science Publishers, Hauppauge, NY.

**Peer-reviewed Publications cont.** (\*with CSU undergraduate students)

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- Lambert, B. A., **R. A. Schorr**, S. Schneider, and E. Muths. 2016. The fate of the largest remaining boreal toad population in the southern Rocky Mountains: population declines, habitat, and the emergence of chytrid fungus. *Journal of Wildlife Management* 80:1256-1266.
- \*Puntenney, C. A., and **R. A. Schorr**. 2016. Patch occupancy and habitat for the hops azure, a rare North American endemic butterfly: insights for monitoring and conservation. *Journal of Insect Conservation*. 20:215-222.
- Schorr, R. A.**, P. M. Lukacs, and J. A. Gude. 2014. The Montana deer and elk hunting population: the importance of cohort group, license price, and population demographics on hunter retention, recruitment, and population change. *Journal of Wildlife Management* 78:944-952.
- Schorr, R. A.**, L. E. Ellison, and P. M. Lukacs. 2014. Estimating sample size for landscape-scale mark-recapture studies of North American migratory tree bats. *Acta Chiropterologica* 16:231-239.
- \***Schorr, R. A.**, and C. Puntenney. 2014. Beer money: how unlikely partners produced conservation population modeling for the hops blue butterfly (*Celastrina humulus*). Proceedings of the 25<sup>th</sup> Annual Meeting of the High Country Lepidopterists, Denver Museum of Nature and Science Reports 1:6.
- Schorr, R. A.**, and J. L. Siemers. 2013. Roost characteristics of male pallid bats (*Antrozous pallidus*) in southeastern Colorado. *Southwestern Naturalist* 58:470-474.
- Schorr, R. A.** 2013. Using distance sampling to estimate density and abundance of *Saussurea weberi* Hultén (Weber's saw-wort). *Southwestern Naturalist* 58:378-383.
- Schorr, R. A.** 2012. Using a temporal symmetry model to assess population change and recruitment in the Preble's meadow jumping mouse (*Zapus hudsonius preblei*). *Journal of Mammalogy* 93:1273-1282.
- Schorr, R. A.**, B. Lambert, and E. Freels. 2011. Home range and habitat use of the longnose leopard lizard (*Gambelia wislizenii*) in southwestern Colorado. *Herpetological Conservation and Biology* 6:312-323.
- Hayes, M. A., **R. A. Schorr**, and K. W. Navo. 2011. Hibernacula selection by Townsend's big-eared bat in Southwestern Colorado. *Journal of Wildlife Management* 75:137-143.
- Schorr, R. A.**, and G. L. Florant. 2009. Do polyunsaturated fatty acids play a role in mammalian hibernator overwinter survival? *Integrative and Comparative Biology* 49:E152.
- Schorr, R. A.**, P. M. Lukacs, and G. L. Florant. 2009. Body mass and winter severity as predictors of overwinter survival in a small hibernator, the Preble's meadow jumping mouse (*Zapus hudsonius preblei*). *Journal of Mammalogy* 90:17-24.
- Schorr, R. A.**, J. L. Siemers, P. M. Lukacs, J. P. Gionfriddo, J. L. Sovell, R. J. Rondeau, and M. B. Wunder. 2007. Using prairie rodent survival to assess habitat quality. *Southwestern Naturalist* 52:552-563.
- Ryon, T. R., M. J. Bonar, K. L. Sheriff-Norris, and **R. A. Schorr**. 2004. Habitat ranking system for the threatened Preble's meadow jumping mouse (*Zapus hudsonius preblei*) in eastern Colorado. Pp. 129-147 in (L. Kapustka, H. Galbraith, M. Luxon, and G. Bidding, eds.) *Landscape ecology and wildlife management habitat evaluation: critical information for ecological risk assessment, land-use management activities, and biodiversity enhancement*. American Society for Testing and Materials, Conshohocken, PA.

## **Peer-reviewed Publications (cont.)**

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- Schorr, R. A.** and R. Davies. 2002. Grey flesh fly (*Wohlfahrtia vigil*) parasitism of a Preble's meadow jumping mouse (*Zapus hudsonius preblei*). *Journal of Wildlife Diseases* 38:604-606.
- King, T. G., M. A. Howell, B. R. Chapman, K. V. Miller, and **R. A. Schorr**. 1998. Comparisons of wintering bird communities in mature pine stands managed by prescribed burning. *Wilson Bulletin* 110:570-574.
- Murphy, T. M., C.-K. Auh, **R. Schorr**, and C. Grobe. 1991. Modification of plasma membrane electron transport in cultured rose cells by UV-C radiation and fungal elicitor. *Plant Pathology* (suppl.) 96:142.

## **Presentations, Posters, and Abstracts (\* presentations by Schorr)**

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- \***Schorr, R. A.** 2020. Climbers for Bat Conservation: understanding bat use of cliff systems. Climb the Hill: Land Management and Climbing Conference. Virtual.
- \***Schorr, R. A.** 2020. Climbers for Bat Conservation: bat conservation along cliffs. First World Bat Twitter Conference. University of West England, Bristol. Virtual.
- \***Schorr, R. A.** 2018. Bats, climbers, and a new citizen science effort for conservation. Association of Fish and Wildlife Agencies Annual Meeting, Tampa, Florida.
- \***Schorr, R. A.**, and B. S. Mihlbachler. 2018. Understanding habitat quality for Preble's meadow jumping mouse (*Zapus hudsonius preblei*): how survival responds to vegetation structure and composition. Southwestern Association of Naturalists Meeting, San Marcos, Texas.
- \***Schorr, R. A.**, and J. L. Siemers. 2016. Little brown bat (*Myotis lucifugus*) maternity colony monitoring in northern Colorado. Annual Symposium of the North American Society for Bat Research, San Antonio, Texas.
- Muths, E., B. Lambert, S. Schneider, **R. A. Schorr**, and L. Bailey. 2016. Long-term demography: movements and disease. Joint Meeting of Ichthyologists and Herpetologists. New Orleans, Louisiana.
- Kuhn, B., S., **R. A. Schorr**, and S. Davis. 2016. Climbers for Bat Conservation: engaging rock climbers through citizen science. International Rock Climbing Research Association. Telluride, Colorado.
- Davis, S., **R. A. Schorr**, and B. Kuhn. 2015. Climbers for Bat Conservation: a novel partnership. Pathways Kenya 2016: Integrating Human Dimensions into Fisheries and Wildlife. Nanyuki, Kenya.
- \***Schorr, R.**, B. Kuhn, and S. Davis. 2015. Climbers for Bat Conservation: citizen science for understanding bat use of cracks and crevices. North American Symposium on Bat Research, Monterrey, California.
- Lukacs, P. M., **R. A. Schorr**, and J. M. Gude. 2013. The Montana deer and elk hunting population: importance of cohort groups, license price, and population demographics on hunter retention, recruitment, and population change. Western States and Provinces 10<sup>th</sup> Annual Deer and Elk Workshop, Missoula, Montana.
- \***Schorr, R. A.** 2013. Population decline and the importance of connectivity: Preble's meadow jumping mouse. Colorado Chapter of The Wildlife Society, Colorado Springs, Colorado.
- \***Schorr, R. A.**, L. E. Ellison, and P. M. Lukacs. 2009. Bat banding: possible tool for estimating survival over a landscape scale? Western Bat Working Group Meeting, Austin, Texas.

## **Presentations, Posters, and Abstracts (cont.)** (\* presentations by Schorr)

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- \***Schorr, R. A.**, and G. L. Florant. 2009. Do polyunsaturated fatty acids play a role in mammalian hibernator overwinter survival? Society for Integrated and Comparative Biology Annual Meeting, Boston, Massachusetts.
- \***Schorr, R. A.**, P. M. Lukacs, and G. L. Florant. 2007. Seasonal survival of a small hibernator, the Preble's meadow jumping mouse. American Society of Mammalogists Annual Meeting, Albuquerque, New Mexico.
- Hayes, M., **R. A. Schorr**, K. Navo, and R. A. Adams. 2007. Modeling hibernacula selection by Townsend's big-eared bat. Western Bat Working Group Meeting, Tucson, Arizona.
- Hayes, M., K. Navo, **R. A. Schorr**, and R. A. Adams. 2006. Selection of abandoned mines as hibernacula by Townsend's big-eared bat (*Corynorhinus townsendii*) in southwestern Colorado. North American Symposium of Bat Research, Wilmington, North Carolina.
- \***Schorr, R. A.** 2001. Population parameters and habitat associations of Preble's meadow jumping mice on the U.S. Air Force Academy. The Colorado Chapter of The Wildlife Society Annual Meeting, Grand Junction, Colorado.
- \***Schorr, R. A.** and D. R. Green. 2000. Approaching conservation using applied research: Preble's meadow jumping mouse on the U. S. Air Force Academy. The Wildlife Society Annual Meeting, Nashville, Tennessee.
- \***Schorr, R. A.**, M. A. Howell, T. G. King, K. E. Ellington, B. R. Chapman, and K. V. Miller. 1997. Small mammal populations on Fort Benning Military Reservation, Georgia. Seventh Colloquium on the Conservation of Mammal in the Southeastern United States, Black Mountain, North Carolina.

## **Training**

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### ***Recent Coursework***

**Estimating Demographic Parameters for Marked Animals (WILD571).** 2020.

University of Montana. Instructor: Paul Lukacs

**Sampling and Analysis of Vertebrate Populations (FW663).** 2020. Colorado State

University. Instructors: Larissa Bailey and Bill Kendall.

**Introduction to R (STAT 158)** 2019. Colorado State University. Instructor: Faustina France Nkansah.

### ***Workshops***

**Introduction to R.** *Sept. 2013.* Mevin Hooten, Colorado State University, Fort Collins, Colorado.

**Introduction to Sonobat Software: Using Sonobat 3.** *Feb. 2012.* Joe Szewczak, Sonobat. Colorado Chapter of The Wildlife Society, Grand Junction, Colorado.

**Bat Acoustic Analysis and Recording Workshop.** *Oct. 2010.* Cori Lausen, Sonobat, Wildlife Acoustics, Analook. Denver, Colorado.

**Modeling Patterns and Dynamics of Species Occurrence.** *May 2007.* Proteus Wildlife Research Consultants. Fish, Wildlife and Conservation Biology Department, Colorado State University, Fort Collins, Colorado.

**Bird Monitoring and Detectability: Understanding and Applying Appropriate Methods.** *Feb. 2007.* Fish, Wildlife, and Conservation Biology Department and Colorado Division of Wildlife, Colorado State University, Fort Collins, Colorado.

## **Training (cont.)**

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### ***Workshops (cont.)***

**Workshop on Bayesian Methods in Wildlife Population Monitoring.** *June 2006.*

Program for Interdisciplinary Mathematics, Ecology, and Statistics, Colorado State University, Fort Collins, Colorado.

**Modeling Patterns and Dynamics of Species Occurrence: Occupancy and Program Presence.** *May 2006.* Daryl MacKenzie, Colorado State University, Fort Collins, Colorado.

**Analysis of Encounter Data from Marked Animal Populations.** *June 2002.* Wildlife Management Institute, Colorado Cooperative Fish and Wildlife Research Unit and Fish, Wildlife, and Conservation Biology Department, Colorado State University, Fort Collins, Colorado.

**Conserving Biodiversity on Military Lands.** *April 1998.* The Nature Conservancy and Department of Defense, Nellis Air Force Base, Las Vegas, Nevada.

## **Grants and Funding (last 5 years) Total fundraising since 1997 >\$2 million**

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### **2020**

*Preble's Meadow Jumping Mouse Populations on the U.S. Air Force Academy, Colorado Springs, Colorado (U.S. Fish and Wildlife Service/Department of Defense)*

*Monitoring Bat Populations in Colorado, acoustic and maternity colony monitoring, statewide, Colorado (Colorado Division of Parks and Wildlife)*

*Preble's meadow jumping mouse habitat rehabilitation, City of Boulder Open Space, Colorado (Colorado Department of Transportation)*

### **2019**

*Preble's Meadow Jumping Mouse Populations on the U.S. Air Force Academy, Colorado Springs, Colorado (U.S. Fish and Wildlife Service/Department of Defense)*

*Monitoring Bat Populations in Colorado, acoustic and maternity colony monitoring, statewide, Colorado (Colorado Division of Parks and Wildlife)*

*Climbing Surveys for Bats, Golden and Boulder, Colorado (Jefferson County Open Space and City of Boulder Open Space and Mountain Parks)*

*Florida bonneted bat and tricolored bat monitoring at Avon Park Air Force Range, Avon Park, Florida (U.S. Fish and Wildlife Service)*

*Wyoming Worth-the-Watching grant, traveling throughout Wyoming to talk with climbers about Climbers for Bat Conservation (Wyoming Game and Fish Department)*

*Colorado Partners in Wildlife grant, traveling throughout Colorado to talk with climbers about Climbers for Bat Conservation (Colorado Parks and Wildlife)*

*Preble's meadow jumping mouse Monitoring Plan Development (U.S. Fish and Wildlife Service)*

*Petzl Fondation small grant to print Petzl and Climbers for Bat Conservation shirts (Petzl Fondation, France)*

### **2018**

*Inventory of Rare Species at U.S. Air Force Academy, Colorado Springs, Colorado (U.S. Fish and Wildlife Service/Department of Defense)*

*Preble's Meadow Jumping Mouse Populations on the U.S. Air Force Academy, Colorado Springs, Colorado (U.S. Fish and Wildlife Service/Department of Defense)*

## **Grants and Funding** (last 5 years) Total fundraising since 1997 >\$2 million

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### **2018 (cont.)**

*Monitoring Bat Populations in Colorado, acoustic and maternity colony monitoring*, statewide, Colorado (Colorado Division of Parks and Wildlife)

*Preble's meadow jumping mouse habitat rehabilitation*, City of Boulder Open Space, Colorado (Colorado Department of Transportation)

### **2017**

*Preble's Meadow Jumping Mouse Populations on the U.S. Air Force Academy*, Colorado Springs, Colorado (U.S. Fish and Wildlife Service/Department of Defense)

*Monitoring Bat Populations in Colorado, acoustic and maternity colony monitoring*, statewide, Colorado (Colorado Division of Parks and Wildlife)

*Little brown bat maternity roosting ecology*, Yampa Valley, Colorado (U.S. Fish and Wildlife Society, White-nose syndrome small grant)

### **2016**

*Surveys for New Mexico Meadow Jumping Mouse in San Juan National Forest*, Durango, Colorado (U.S. Forest Service)

*Preble's Meadow Jumping Mouse Populations on the U.S. Air Force Academy*, Colorado Springs, Colorado (U.S. Fish and Wildlife Service/Department of Defense)

*Monitoring Bat Populations in Colorado*, statewide, Colorado (Colorado Division of Parks and Wildlife)

*The Celastrina Project: Developing the Next Conservation Biologists at Colorado State University*, CHARGE! at Colorado State University (crowd-sourced)

*Bats in Inactive Mines Project*, statewide, Colorado (Colorado Division of Reclamation Mining and Safety)

## **Associations**

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American Society of Mammalogists (2000-present)

Southwestern Association of Naturalists (1999-present)

The Wildlife Society: National Chapter (1994-2012), Colorado Chapter (1998-present),

Southeastern Chapter (1994-1997), and University of Georgia Student Chapter (1994-1997)

Western Bat Working Group (2003-present)

Colorado Bat Working Group (2002-present)

Denver Museum of Nature Research Affiliate (2018-present)

## **Professional Service**

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Western Bat Working Group

Presidential Appointee (2013 – 2019)

Secretary (2011 – 2013)

Conference Coordinator, Fort Collins, CO (2017)

Colorado Bat Working Group

Board Member (2013-present)

Webmaster (<http://www.cnhp.colostate.edu/teams/zoology/cbwg/>)

**Professional Service (cont.)**

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Colorado Chapter of the Wildlife Society (1999-2003, 2009-2010; At Large Member, Northeast Representative, President-elect, President, Past President, Secretary (2x))

Journal Review: *Southwestern Naturalist*, *Western North American Naturalist*, *Northwestern Naturalist*, *Journal of Mammalogy*, *Wildlife Biology*, *Wetlands*, *Journal of Fish and Wildlife Management*, *American Midland Naturalist*

University of Georgia Mentor Program (2019- present)

**Certification**

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The Wildlife Society: Certified Wildlife Biologist (2006, 2011), Professional Development Certificate (2011)