

Curriculum Vitae

Elizabeth Sherman

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EDUCATION:

Ph.D., Zoology, High Distinction, University of Vermont, 1977

B.A., Biology, High Distinction, University of Rochester, 1972

PROFESSIONAL EMPLOYMENT:

Professor of Biology *Emerita*, Bennington College 2020-present

Senior Marine Science Advisor, Maria Mitchell Association, Nantucket, 2025-present

Visiting Scientist, Department of Environment, Cayman Islands, 2010-present

Adjunct Professor of Biology, Community College of Vermont, 2022-present

Professor of Biology, Prison Education Initiative, Great Meadow Correctional Facility, Comstock, NY, Fall, 2021

Professor of Biology, Bennington College, 1978-2020

Scientist-in-residence, Long Trail School, Dorset, VT. Supported in part by grant from NSF (sabbatical, 1995-1996).

Chair (Curriculum Coordinator), Natural Sciences and Mathematics, Bennington College. 1984-1986; 1992-1994; 2003-2005

Postdoctoral Research Fellow, Neurobiology and Behavior, Cornell University, 1977-1978

National Science Foundation Graduate Fellow, Zoology, University of Vermont, 1974-1977

AWARDS, GRANTS, FELLOWSHIPS:

Accomplished Graduate Alumna Award. Career achievements in research and education. University of Vermont, 2021.

Math, Science Partnerships Grant, Southwest Vermont Curriculum Coordinators' Collaborative (SWVTCC), 2009-2014.

Problems in amphibian diversity, Grant from American Wildlife Research Foundation, 2001.

Developmental differences among newts (*Notophthalmus viridescens*) as a function of pond pH. Grant from American Wildlife Research Foundation, 2000.

Integrating Science and Math in the Classroom-V, National Science Foundation, Vermont Institute for Science, Math, & Technology, 1997.

Scinetist in Residence, National Science Foundation, Vermont Institute for Science, Math, & Technology. 1995-1996.

Intraspecific variation in osmoregulation among newt populations as a function of pond pH, National Science Foundation, VT.EPSCoR. 1995-1996.

Integrating Science & Math in the Classroom III- IV. National Science Foundation, Vermont Institute for Science, Math, & Technology. 1995-1996.

Integrating Science & Math in the Classroom I-II. Department of Education, Title II. 1993-1994.

Grass Foundation Grant, 1992-1994.

National Science Foundation Grant, VT.EPSCoR. 1988-1989.

Vermont Department of Education Title II Grant, Bennington, VT, 1986-1988.

W.K. Kellogg National Leadership Fellowship, 1983-1986.

National Science Foundation Graduate Fellowship, 1974-1977.

Phi Beta Kappa Society, University of Vermont, 1972.

SELECTED COURSES TAUGHT:

Introductory Biology

Comparative Animal Physiology

Neurophysiology

Adaptation or Extinction: Animals and Climate Change

Environmental Physiology

Freshwater Biology and Chemistry

Animal Social Behavior

Human Evolution

Field Course in Coral Reef Biology (on Grand Cayman)
Diversity of Coral Reef Animals
Marine Biology
The Biology of the Sexes
Human Anatomy and Physiology
Biology and Chemistry of Vermont Lakes, Ponds, and Streams
Integrating Science & Math in the Classroom
Scale, Models and Simulations in Science & Mathematics
Human Nature(s)
Science and Anti-science in America
No Free Lunch: the Second Law of Thermodynamics

RESEARCH INTERESTS:

Diversity of coral reef animals
Environmental physiology of animals in freshwater and marine environment
Evolution and sociobiology
Science/math and citizenship
K-12 science education

ADDITIONAL PROFESSIONAL EXPERIENCE:

Consultant, elementary, middle, and high school science education, 1979- present.

Founder and Director, Bennington College Coral Reef Project, 2004-2020.

Amphibian diversity of Merck Forest. Merck Forest, VT., 1998-2003.

Accreditation visiting team member for NEASC (New England Association of Schools and Colleges), 1992-2000.

Northeast United States Working Group: Declining Amphibian Population Task Force, 1993-2000.

Commissioner, Commission on Institutions of Higher Education, New England Association of Schools & Colleges, 1982-1989.

Founder and Director, Bennington College Post-baccalaureate Pre-medical & Allied Health Sciences Program, 1979-1998.

Manuscript reviewer: Herpetologica, Comparative Biochemistry & Physiology, Copeia, Crustaceana, Evolutionary Biology, PLoS, Scientific Reports, Evolutionary Biology.

PUBLICATIONS (*indicates student co-author):

- Sherman, E. 2021. When you spot a spotted newt, listen to its lessons. *LakeLine* 41:10-13.
- Sherman, E. 2020. Sea urchins, parrotfish and coral reefs in Grand Cayman, BWI: exemplar or outlier? *BioRxiv* 2020.12.11.421867; doi <https://doi.org/10.1101/2020.12.11.421867>.
- Blackwood, J.C., C. Okasaki*, A. Archer*, E.W. Matt*, E. Sherman, and K. Monovan, 2018. Modeling alternative stable states in Caribbean coral reefs. *Nat. Resour. Model.* <https://doi.org/10.1111/nrm.12157>
- Sherman, E. 2015. Can sea urchins beat the heat? Sea urchins, thermal tolerance and climate change. *PeerJ* 3:e1006; DOI 10.7717/peerj.1006.
- Sherman, E. and K. Van Munster*. 2012. Pond pH, acid tolerance and water preference in newts of Vermont. *Northeastern Naturalist* 19:111-122.
- Sherman, E. 2009. Science and anti-science in America: why it matters. *Skeptical Inquirer* 33: 32-35.
- Sherman, E., K. Tock*, and C. Clarke*. 2009. Fluctuating asymmetry in *Ichthyophonus*-sp. infected newts, *Notophthalmus viridescens*, from Vermont. *Applied Herpetol.* 6: 369-378.
- Sherman, E. 2008. Thermal biology of newts (*Notophthalmus viridescens*) chronically infected with a naturally occurring pathogen. *J. Therm. Biol.* 33: 27-31.
- Sherman, E. and D. Levitis*. 2003. Heat hardening as a function of developmental stage in larval and juvenile stage in larval and juvenile *Bufo americanus* and *Xenopus laevis*. *J. Therm. Biol.* 28: 373-380.
- Sherman, E. and A. Stephens*. 1998. Fever and metabolic rate in the toad *Bufo marinus*. *J. Therm. Biol.* 23: 49-52.
- Sherman, E., L. Baldwin*, G. Fernandez*, and E. Deurell*. 1991. Fever and thermal tolerance in the toad *Bufo marinus*. *J. Therm. Biol.* 16:297-301.
- Sherman, E. and S. Stadlen*. 1986. The effect of dehydration on rehydration and metabolic rate in a lunged and lungless salamander. *Comp. Biochem. Physiol.* 85A: 483-487.
- Sherman, E. and A. Eichrodt*. 1982. The effect of temperature on osmotic responses of the hermit crab *Pagurus longicarpus* Say. *Comp. Biochem. Physiol.* 73A: 261-265.
- Sherman, E. 1980. Cardiovascular responses of the toad *Bufo marinus* to thermal stress and water deprivation. *Comp. Biochem. Physiol.* 66A: 643-650.
- Sherman, E. 1980. Ontogenetic change in thermal tolerance of the toad *Bufo woodhousii fowleri*. *Comp. Biochem. Physiol.* 65A: 227-230.
- Sherman, E. M. Novotny, and J. M. Camhi. 1977. A modified walking rhythm employed during righting behavior in the cockroach *Gromphadorhina portentosa*. *J. Comp. Physiol.* 113: 303-316.

SELECTED PRESENTATIONS:

Zooming in on Stress: How the MMA Buoy Complements Harbor Monitoring for Stakeholders, Great Harbor Yacht Club Foundation's Annual Harbor Health Symposium, 2025.

Bay scallop reproduction and harbor stress: connecting biological and environmental clues, Nantucket Biodiversity Initiative Research Conference, 2025.

What's so hot about sex anyway, OSHER speaker series, UVM, Stowe, 2025.

Cautionary tales from coral reefs: why you should care? Woodworth Speakership, Bennington College, April, 2025.

Sea urchins, parrotfish and coral reefs in Grand Cayman, BWI: exemplar or outlier? Woodworth Speakership, Bennington College, April, 2025.

Evolution: the best idea ever. OSHER speaker series, UVM, Stowe, 2024.

Why are there so many animals and plants. Wayland Free Public Library and Stowe Free Library, 2024.

Science and anti-science in America. OSHER speaker series, UVM, Stowe, 2023.

In celebration of serendipity. UVM Biology Graduation, May 2021.

Herbivory and coral reef health: do sea urchins upend the parrotfish paradigm? University of Vermont, February 2019.

Coral reefs and climate change. Green Mountain Academy for Lifelong Learning, VT. February 2019.

Next Generation Science Standards: what's the big idea? Keynote address, Chittenden South Supervisory Union, VT. August 2014.

Doing science in school. Keynote address, Rutland Southwest Supervisory Union, VT. August 2012.

Why Evolution Matters. Green Mountain Academy for Lifelong Learning, Manchester, VT., August 2012.

Science and anti-science in America. Osher Lifelong Learning Institute, UVM, Rutland, VT., May 2011.

What's love got to do with it: the biology of human mate choice. Northshire Bookstore, Manchester, VT. March 2011.

What's the big idea: using technology in the K-12 science classroom. Keynote address, Math Science Partnership Summit, Rutland, VT, October 2010.

Doing science on planet earth. Keynote address, Science Summit, Manchester Elementary and Middle School, Manchester, VT., January 2010.

What are the chances: a celebration of earth's atoms. Merck Forest and Farmland, VT., June 2009.

Why Darwin matters. Northshire Bookstore, Manchester, VT., March 2009.

Fear of flying: why science matters. Convocation address, Bennington College, Bennington, VT., 2008.

A life of reading. Bennington-Rutland Supervisory Union School Teachers, August 2008.

Science and anti-science in America: belief and knowing. Keynote address: New England Association of Environmental Biologists. Mount Snow, VT, March 15, 2007.

Physiological differences among newts from ponds of different pH, (with student K. Stoop). Meeting of Ichthyologists and Herpetologists. New Orleans, July 2006.

The practice of science and art. Art, Artists, & Teaching, J. Paul Getty Trust, Bennington, VT., June 2002.

Has pH served as an agent of natural selection in the evolution of newts? Northeast Natural History Conference, Albany, NY, April 2002.

Adaptations of newts to ponds of different pH. Johnson State College, Current Topics in Biology Series, April 2002.

What's so hot about fever anyway: fever as adaptation. Colorado College, Department of Biology Seminar, Colorado Springs, January 1999.

The enterprise of science. Keynote address, Vermont Institute for Science, Math & Technology, National Science Foundation, July 1995.

Animal life of ponds. Bennington County Conservation District. August 1994.

The biology of sex. Burr & Burton Academy, Biology Seminar Series. Manchester, VT. June 1994.

Barbie doll biology: can Barbie do math? Vermont Institute for Science, Math & Technology, National Science Foundation, Colchester, VT., October 1993.

The biology of gender. Women's Issues Study Group, Bennington, VT., October 1992.

The contingent nature of scientific knowledge. The Freedom Forum, Media Studies Center, Science and the Media, Columbia University, March 1992.

Scaling the heights with dinosaurs: scale in science., NSTA, Boston, March 1992.

Some like it hot! A predictive model of the Law of Conservation of Energy. VT Blueprints for Change. May 1991.