

# NORTHEASTERN NATURALIST

## Co-sponsors

Eagle Hill Institute                      Smithsonian Institution, National Museum of Natural History

## Board of Editors

Rudolf G. Arndt, School of Natural Sciences and Mathematics, Stockton University, Pomona, NJ  
Trevor Avery, Department of Biology, Acadia University, Wolfville, NS, Canada  
Celina Baines, Department of Biology, McGill University, Montreal, QC, Canada  
Robert Bertin, Department of Biology, College of the Holy Cross, Worcester, MA  
Hugh Broders, University of Waterloo, Waterloo, ON, Canada  
Jim Cardoza, Division of Fisheries and Wildlife, Massachusetts Dept. of Fish and Game, Westboro, MA  
Stephanie Coster, Biology Department, Randolph-Macon College, Ashland, VA  
Michael Cramer, Department of Biological Sciences, University of Notre Dame, Notre Dame, IN  
Peter K. Ducey, Biological Sciences Department, SUNY Cortland, Cortland, NY  
Thomas W. French, Division of Fisheries and Wildlife, Massachusetts Dept. of Fish and Game, Westboro, MA  
Keith Goldfarb, GoldRush Science Services, Steuben, ME ... **Editor-in-Chief**  
Roland de Gouvenain, Department of Biology, Rhode Island College, Providence, RI  
Ralph Grundel, USGS Great Lakes Science Center, Porter, IN  
Elizabeth N. Hane, Department of Biological Sciences, Rochester Institute of Technology, Rochester, NY  
Christopher M. Heckscher, Dept. of Agriculture and Natural Resources, Delaware State University, Dover, DE  
Susan Herrick, Department of Ecology and Evolutionary Biology, University of Connecticut Storrs, CT  
Jeff Houlahan, Department of Biology, University of New Brunswick, Saint John, NB  
Joseph S. Johnson, Department of Biology, Ohio University, Athens, OH  
Ashley Kennedy, Department of Entomology and Wildlife Ecology, University of Delaware, Wilmington, DE  
Daniel M. Keppie, Department of Biology, University of New Brunswick, Fredricton, NB  
Jeremy J. Kirchman, Ornithology Department, New York State Museum, Albany, NY  
Allen Kurta, Eastern Michigan University, Biology Department, Ypsilanti, MI  
Joerg-Henner Lotze, Eagle Hill Institute, Steuben, ME ... **Publisher**  
Thomas Maier, US Army Corps of Engineers, Pittsburgh, PA  
Kent McFarland, Vermont Center for Ecostudies, Norwich, VT  
James McKenna, Laboratory of Aquatic Science, USGS, Cortland, NY  
Joseph Milanovich, Department of Biology, Loyola Universtiy Chicago, Chicago, IL  
Glen H. Mittelhauser, Maine Natural History Observatory, Gouldsboro, ME ... **Managing Editor**  
Joshua Ness, Biology Department, Skidmore College, Saratoga Springs, NY  
Sara O'Brien, Biology Department, Radford University, Radford, VA  
David Orwig, Harvard Forest, Harvard University, Petersham, MA  
Peter Paton, Department of Natural Resources Science, University of Rhode Island, Kingston, RI  
Noah Perlut, University of New England, Biddeford, ME  
Thomas Philbrick, Department of Biological & Environmental Sciences, Connecticutt State University, Danbury, CT  
Joseph Rachlin, Department of Biological Sciences, Lehman College, Bronx, NY  
John E. Rawlins, Dept. of Invertebrate Zoology, Carnegie Museum of Natural History, Pittsburgh, PA  
David H.S. Richardson, St. Marys University, Halifax, NS  
Todd Rimkus, Department of Biology and Physical Sciences, Marymount University, Manassas, VA  
Gregory J. Robertson, Environment Canada, Mount Pearl, NL, Canada  
Rebecca Rowe, Natural Resources and the Environment, University of New Hampshire, Durham, NH  
Jean-Pierre L. Savard, Wildlife Research Division, Environment Canada, Sainte-Foy, Québec, Canada  
Emily Schilling, Biology and Environmental Studies, Augsburg University, Minneapolis, MN  
Susan B. Smith, School of Life Sciences, Rochester Institute of Technology, Rochester, NY  
Jay Stauffer, Ecosystems Department, Penn State University, University Park, PA  
Thomas J. Trott, Maine Coastal Program, Dept. of Marine Resources, Science Division, West Boothbay Harbor, ME  
John Waldman, Biology Department, Queens College, CUNY, Flushing, NY  
Stuart Welsh, West Virginia Cooperative Fish & Wildlife Research Unit, West Virginia University, Morgantown, WV  
Heather York, Department of Biology, Buena Vista University, Storm Lake, IA  
David Yozzo, School of Natural and Social Sciences, Purchase College - SUNY, Purchase, NY

The *Northeastern Naturalist* (ISSN 1092-6194 [print], ISSN 1938-5307 [online]) is a collaborative publishing effort that is based at the Eagle Hill Institute, PO Box 9, 59 Eagle Hill Road, Steuben, ME 04680-0009. Phone 207-546-2821, FAX 207-546-3042. E-mail: office@eaglehill.us. Webpage: www.eaglehill.us/vena. Copyright © 2020, all rights reserved. Periodical postage paid in Steuben, ME and additional mailing offices. Published quarterly. **Special issue and monograph proposals are welcome.** Printed by Allen Press, Lawrence, KS. On-line secure subscription ordering: rate per year for individuals at US addresses - \$60 (students, \$48); organizations at US addresses \$250; Canadian addresses, add \$25; other non-US addresses, add \$55. **Postmaster:** Please send address changes to Northeastern Naturalist, Eagle Hill Institute, PO Box 9, 59 Eagle Hill Road, Steuben, ME 04680. **Authors:** Submission considerations and formatting guidelines are available at www.eaglehill.us/vena. The Eagle Hill Institute is a tax exempt 501(c)(3) nonprofit corporation of the State of Maine (Federal ID # 010379899).