

KALYN BICKERMAN-MARTENS

CURRICULUM VITAE

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EDUCATION

- Present** **Ph.D. Candidate**, Ecology and Environmental Sciences, University of Maine
- 2011** **M.A.**, Conservation Biology, Columbia University
- 2007** **B.A.**, Biology (major) and Archaeology (minor), Bowdoin College

RESEARCH INTERESTS

DISEASE ECOLOGY	INSECT TOXICOLOGY	CITIZEN SCIENCE
POLLINATION ECOLOGY	BEHAVIORAL ECOLOGY	PARASITOLOGY
SPECIES AND CLIMATE CHANGE	THE NATURAL HISTORY OF MAINE	

GRANTS AND AWARDS

- 2016** **Degree Related Research Grant** (\$850), University of Maine's Graduate Student Government, for travel to Utah State University in Logan, UT to work in the lab of Dr. Jamie Strange to DNA barcode parasitoid flies. (PI: Kalyn Bickerman-Martens)
- 2016** **Travel Grant** (\$294.39), University of Maine's Graduate Student Government, to present work with the Maine Bumble Bee Atlas (MBBA): a citizen science initiative that uses volunteers to help gather data on the diversity, distribution, and abundance of bumble bee species in Maine at International Conference on Pollinator Biology, Health, and Policy in State College, PA. (PI: Kalyn Bickerman-Martens)
- 2015** **Degree Related Research Grant** (\$850), University of Maine's Graduate Student Government, for the purchase of a Dino-Lite Digital USB Microscope for the entomology lab. (PI: Kalyn Bickerman-Martens)
- 2015** **Chase Distinguished Research Assistantship** (\$14,600), The University of Maine's Graduate School, nominated by the School of Biology and Ecology.
- 2015** **Degree Related Research Grant** (637.50), University of Maine's Graduate Student Government, for the purchase of dissection tools and undergraduate student worker help. (PI: Kalyn Bickerman)

- 2014** **Travel Grant** (\$637.50), University of Maine's Graduate Student Government, to present "Individual and colony effects of dietary imidacloprid on managed *Bombus impatiens* in Maine's lowbush blueberry fields" at the Annual Meeting of the Entomological Society of America in Portland, OR. (PI: Kalyn Bickerman)
- 2014** **Maine Outdoor Heritage Fund Grant** (\$12,735), "Keeping Track of Keystone Pollinators: A Statewide Atlas of Maine's Bumble Bee Fauna." (PI: Beth I. Swartz and Co-PI: Kalyn Bickerman)
- 2014** **Maine State Wildlife Grant** (\$27,348), The U.S. Fish and Wildlife Service and the Maine Department of Inland Fisheries and Wildlife, "Keeping Track of Keystone Pollinators: A Statewide Atlas of Maine's Bumble Bee Fauna." (PI: Beth I. Swartz and Co-PI: Kalyn Bickerman)
- 2014** **Degree Related Research Grant** (\$850), University of Maine's Graduate Student Government, "Using Radio Telemetry to Identify Native Bumble bee Nest Sites in Maine Blueberry Fields." (PI: Kalyn Bickerman)
- 2013** **Degree Related Research Grant** (\$280.07), University of Maine's Graduate Student Government, "Using PCR to detect *Nosema bombi* infection in Maine's native bumble bees." (PI: Kalyn Bickerman)
- 2013** **Ecology and Environmental Sciences Research Award** (\$500), University of Maine's Ecology and Environmental Sciences Department, "The Effects of Dietary Imidacloprid on Bumble bee Health in Lowbush Blueberry Fields in Maine." (PI: Kalyn Bickerman)
- 2013-15** **Northeast Sustainable Agricultural Research and Education Grant** (\$14,082), The United States Department of Agriculture, "The Effects of Dietary Imidacloprid on Bumble Bee Health in Lowbush Blueberry Fields in Maine." (PI: Kalyn Bickerman)
- 2005-06** **New England Small College Athletic Conference (NESCAC) All-Academic Team for Bowdoin Women's Rugby**, Qualified student athletes must have varsity status on their team and maintain a cumulative grade point average of at least 3.35 on a 4.0 scale.

PUBLICATIONS & MANUSCRIPTS

Dibble, A.C., A.L. Averill, **K. Bickerman-Martens**, S.C. Bosworth, S. Bushmann, F.A. Drummond, J. Fowler, A.K. Hoshide, M.E. Leach, L.L. Richardson, E. Venturini, and A. White. 2018. Bees and their habitats in four New England states. *Maine Agricultural and Forest Experiment Station Miscellaneous Report 448*: 50 pp

Bickerman-Martens, K., B. Swartz, R. Butler, and F.A. Drummond. 2017. Documenting the Diversity, Distribution, and Status of Maine Bumble Bees: The Maine Bumble Bee Atlas and Citizen Scientists. *Maine Policy Review* **26(2)**: 43-49.

Bickerman-Martens, K.E. and F. Drummond. 2015. The effects of foraging on imidacloprid-treated lowbush blueberry (*Vaccinium angustifolium*) on the development of *Bombus impatiens* colonies. In: *Insect Pest Management Experiments on Wild Blueberries in Maine*. F. Drummond, J. Collins, and E. Ballman, eds. School of Biology and Ecology, Cooperative Extension, University of Maine. Maine Blueberry Commission Report.

Bickerman-Martens, K.E. and F. Drummond. 2015. Bumblebee species distributions and phenology in Midcoast and Downeast Maine. In: *Insect Pest Management Experiments on Wild Blueberries in Maine*. F. Drummond, J. Collins, and E. Ballman, eds. School of Biology and Ecology, Cooperative Extension, University of Maine. Maine Blueberry Commission Report.

Tomaszewicz, C.N.T., J.A. Seminoff, L. Avens, L.R. Goshe, S.H. Peckham, J.M. Rodriguez-Baron, **K. Bickerman**, and C. M. Kurle. 2015. Determining age and residency duration of loggerhead turtles (*Caretta caretta*) at a North Pacific bycatch hotspot using skeletochronology. *Journal of Biological Conservation* **186**: 134-142.

Bickerman, K.E. and F. Drummond. 2014. The health of bumble bees in blueberry fields in Downeast Maine. In: *Insect Pest Management Experiments on Wild Blueberry in Maine*. J. Collins and F. Drummond, eds. School of Biology and Ecology, Cooperative Extension, University of Maine. Maine Blueberry Commission Report.

Bickerman, K.E. and F. Drummond. 2013. The health of native bumble bees in blueberry fields in Downeast Maine and the effects of dietary imidacloprid on managed *B. impatiens* colonies. In: *Insect Pest Management Experiments on Wild Blueberry in Maine*. J. Collins and F. Drummond, eds. School of Biology and Ecology, Cooperative Extension, University of Maine. Maine Blueberry Commission Report, 137 pp.

Bickerman, K.E. and F. Drummond. 2012. The health of native bumble bees in blueberry fields in Downeast Maine and the effects of dietary imidacloprid on managed *B. impatiens* colonies. In: *Insect Pest Management Experiments on Wild Blueberry in Maine*. J. Collins and F. Drummond, eds. School of Biology and Ecology, Cooperative Extension, University of Maine. Maine Blueberry Commission Report, 107 pp.

RESEARCH EXPERIENCE

- 2012 – Pres.** **Graduate Research Assistant**, *University of Maine, Orono, ME*. Conduct field and lab work toward completion of dissertation research. I focus on the health of native bumble bees in Maine's lowbush blueberry fields. Specifically: monitoring parasites and pathogens, investigating colony-level effects of pesticide exposure, and tracking species around Maine through specimen collections and citizen science with the Maine Bumble Bee Atlas. PhD advisor: Dr. Francis Drummond.
- 2011** **Offshore Wind Energy Intern**, *The Island Institute, Rockland, ME*. Performed research using the primary literature and the interviewing of experts on the environmental effects of offshore wind farms in Maine. In 2011 there was a proposed project that was being planned for the Gulf of Maine and many members of the public and the working waterfront raised concerns. I wrote fact sheets on interactions with birds, bats and marine species that were disseminated to Maine coastal residents to aid in community awareness.
- 2009 – 2011** **Graduate Student in Conservation Biology**, *Columbia University in the City of New York, New York, NY*. Worked in the skeletochronology laboratory at the National Marine Fisheries Service at the National Oceanic and Atmospheric Administration in Beaufort, NC under the direction of Dr. Larisa Avens and Lisa Goshe to process humeri bone samples of Pacific loggerhead sea turtles that were stranded on the beaches of Baja California Sur, Mexico from 2003-2008. The purpose of the study was to determine age-specific growth rates of individual turtles, which was added to demographic information for the population to help determine possible causes of the mass strandings. Research was done under the supervision of Dr. Alonso Aguirre, formerly of EcoHealth Alliance.

TEACHING AND MENTORING EXPERIENCE

- 2018** **Co-Instructor** at the Eagle Hill Institute in Steuben, ME for the course *Native bees as Pollinators: Diversity, Ecology, Conservation, and Habitat Enhancement*, July 8-14, 2018.
- 2017** **Guest Lecturer** at the Eagle Hill Institute in Steuben, ME for the course *Native bees as Pollinators: Diversity, Ecology, Conservation, and Habitat Enhancement*, July 13-14, 2017.

- 2016** **STEM Presenter** at the Expanding Your Horizons Conference at the University of Maine, March 17, 2016. Led a group of middle-school aged girls in learning about native bees in Maine and designed an exploratory workshop using dissecting microscopes.
- 2015** **Research Mentor** of University of Maine Orono undergraduate student Catherine Fletcher for her capstone project, *Common Wildflowers and Ornamentals Visited by Bumblebees in Maine: A Field Guide for Citizen Science Bee Collection*.
- 2014 – 2015** **Teaching Assistant**, School of Biology and Ecology, University of Maine, Orono, ME.
- *Lab Instructor*, Basic Biology [BIO 100], Fall 2014
 - *Lab Instructor*, Basic Biology [BIO 100], Spring 2015
- 2013 – Pres.** **Research Mentor**, Maine Experimental Program to Stimulate Competitive Research (EPSCoR) High School Research Internship Program, University of Maine Orono
- Student: Garry Morneault (2015)
Project: *Behavior and Biology of the Conopid Fly Physocephala furcillata, a Parasitoid of Bumble Bees*
- Student: Garry Morneault (2014)
Project: *A Study of Conopid Parasitism of Bumble Bees in Maine Blueberry Fields*
- Student: Joseph DeSisto (2013)
Project: *Evaluating the Effects of Imidacloprid Exposure on Commercial Bombus impatiens Colonies*

PRESENTATIONS

- 2019** **Bickerman-Martens, K.** Insect Parasites and Pathology. College of the Atlantic, invited guest lecturer for the course “Wild Bee Biology and Ecology”. Bar Harbor, ME, May 20, 2019. Oral presentation.
- 2019** **Bickerman-Martens, K.** Native Bees in Maine: threats and what you can do to help. Oxford Hills Honey Bee Club. South Paris, ME, May 13, 2019. Oral presentation.
- 2019** **Bickerman-Martens, K.** Native Bees in Maine: threats and what you can do to help. University of Maine at Augusta Senior College: Insects are (mostly) our friends. Augusta, ME, April 30, 2019. Oral presentation.

- 2019** **Bickerman-Martens, K.** Native Bees in Maine: threats and what you can do to help. Making a Difference with Native Plants at Harpswell Heritage Land Trust. Harpswell, ME, April 13, 2019. Oral presentation.
- 2019** **Bickerman-Martens, K.** Maine's Bumble Bees and the Maine Bumble Bee Atlas. 2019 Pesticide Applicator Training presented by UMaine Cooperative Extension and the Board of Pesticides Control (Pollinators). Portland, ME, March 21, 2019. Oral presentation.
- 2019** **Bickerman-Martens, K.** Maine's Bumble Bees and the Maine Bumble Bee Atlas. 2019 Pesticide Applicator Training presented by UMaine Cooperative Extension and the Board of Pesticides Control (Pollinators). Brewer, ME, March 20, 2019. Oral presentation.
- 2019** **Bickerman-Martens, K.** Maine's Native Bees: Habitat, Threats, and Citizen Science. University of Maine Oxford County Extension workshop. South Paris, ME, February 14, 2019. Oral presentation.
- 2018** **Bickerman-Martens, K.** The Maine Bumble Bee Atlas: A Multi-Year Citizen Science Project to Survey Bumble Bee Species in Maine. Androscoggin Beekeepers Club Meeting. Auburn, ME, November 14, 2018. Oral presentation.
- 2018** **Bickerman-Martens, K.** The Maine Bumble Bee Atlas: A Multi-Year Citizen Science Project to Survey Bumble Bee Species in Maine. Eagle Hill Summer Lecture. Steuben, ME, July 12, 2018. Oral presentation.
- 2018** **Bickerman-Martens, K.** Maine's Native Bumble Bees (and other bees). Natural History Week at Bearnstow. Mount Vernon, ME, June 20, 2018. Oral presentation.
- 2018** **Bickerman-Martens, K., F. Drummond, and B. Swartz.** The Status of Native Bumblebees in Maine. Maine Bumble Bee Atlas Volunteer Training Workshop. Orono, ME, June 9, 2018. Oral presentation.
- 2018** **Bickerman-Martens, K., F. Drummond, and B. Swartz.** The Status of Native Bumblebees in Maine. Maine Bumble Bee Atlas Volunteer Training Workshop. Gorham, ME, May 19, 2018. Oral presentation.
- 2018** **Bickerman-Martens, K.** Bumble Bees and Pollination. Earth Day at Ascentria Care Alliance. Westbrook, ME, April 24, 2018. Oral presentation.
- 2018** **Bickerman-Martens, K.** Bumble Bees of Maine. Field Note Friday at Bowdoin College. Brunswick, ME, April 20, 2018. Oral presentation.

- 2018** **Bickerman-Martens, K.** Maine Bumble Bee Atlas: Documenting the Status of Maine Bumble Bees using Citizen Science. Maine Science Festival. Bangor, ME, March 17, 2018. Oral presentation.
- 2017** **Bickerman-Martens, K.** Maine Bumble Bee Atlas Identification Workshop. Farmington, ME, June 24, 2017. Oral presentation.
- 2017** **Bickerman-Martens, K.,** F. Drummond, and B. Swartz. The Status of Native Bumblebees in Maine. Maine Bumble Bee Atlas Volunteer Training Workshop. Orono, ME, May 6, 2017. Oral presentation.
- 2016** **Bickerman-Martens, K.** Maine Bumble Bee Atlas Identification Workshop. Augusta, ME, November 5, 2016. Oral presentation.
- 2016** **Bickerman-Martens, K.** and F. Drummond. The Health of Maine's Bumble Bees. The Northern New England Pollinator Habitat Working Group 2016 Summer Meeting. Wareham, MA, August 18, 2016. Oral presentation.
- 2016** **Bickerman-Martens, K.,** B. Swartz, R. Butler, F. Drummond, and L. Richardson. The *Maine Bumble Bee Atlas: A Multi-Year Citizen Science Project to Survey Bumble Bee Species in Maine*. Third International Conference on Pollinator Biology, Health & Policy. State College, PA, July 20, 2016. Oral presentation.
- 2016** **Bickerman-Martens, K.,** F. Drummond, and B. Swartz. The Status of Native Bumblebees in Maine. Maine Bumble Bee Atlas Volunteer Training Workshop. Orono, ME, June 11, 2016. Oral presentation.
- 2016** Du Clos, B. and **K. Bickerman-Martens.** Let's look at wild bees!. 4-H@UMaine: Connecting Kids to Campus. May 21, 2016. Oral presentation.
- 2016** **Bickerman-Martens, K.** F. Drummond, and B. Swartz. The Status of Native Bumblebees in Maine. Maine Bumble Bee Atlas Volunteer Training Workshop. Gorham, ME, May 7, 2016. Oral presentation.
- 2015** **Bickerman-Martens, K.,** F. Drummond, and B. Swartz. The Status of Native Bumblebees in Maine. Maine Bumble Bee Atlas Volunteer Training Workshop. Gorham, ME, July 18, 2015. Oral presentation.
- 2015** **Bickerman-Martens, K..** Birds, sea turtles, and bumblebees – the life of a biologist. Summer Camp at the Challenger Learning Center of Maine. Bangor, ME, July 16, 2015. Oral presentation.

- 2015** **Bickerman-Martens, K.** and B. Swartz. The Maine Bumble Bee Atlas. Wild Blueberry Summer Field Day and Meeting. Jonesboro, ME, July 15, 2015. Oral presentation.
- 2015** **Bickerman, K.E.** and F. Drummond. The Status of Native Bumblebees in Maine. Maine Bumble Bee Atlas Volunteer Training Workshop. Orono, ME, May 16, 2015. Oral presentation.
- 2015** **Bickerman, K.E.** and F. Drummond. The Status of Native Bumblebees in Maine's Wild Blueberry Fields. Androscoggin Beekeepers Club Meeting. Lewiston, ME, May 13, 2015. Oral presentation.
- 2015** **Bickerman, K.E.** and F. Drummond. Bumblebee Health and Conservation in Maine's Lowbush Blueberry Fields and Differential Insecticide Susceptibility of Maine's Native Bumblebee Species. Thesis Proposal Defense. Orono, ME, May 1, 2015. Oral presentation.
- 2015** **Bickerman, K.E.** The Health of Maine's Native Bees. Maine Arborist Association Spring Workshop. Portland, ME, April 8, 2015. Oral presentation.
- 2015** **Bickerman, K.E.** and F. Drummond. Bumblebee Health in Maine's Lowbush Blueberry Fields. Spring Growers' Meeting. Bangor, ME, March 20, 2015. Poster presentation.
- 2014** **Bickerman, K.E.** and F. Drummond. Individual and colony effects of dietary imidacloprid on managed *Bombus impatiens* in Maine's lowbush blueberry fields. The Entomological Society of America Annual Meeting. Portland, OR, November 17, 2014. Oral presentation.
- 2014** **Bickerman, K.E.** and F. Drummond. Bumblebee Health in Maine's Lowbush Blueberry Fields. University of Maine Graduate Academic Exposition 2014. Orono, ME, April 2, 2014. Oral presentation.
- 2014** **Bickerman, K.E.** and F. Drummond. Bumblebees in Maine. Maine Entomological Society Winter Workshop. Augusta, ME, January 25, 2014. Oral presentation.
- 2013** **Bickerman, K.E.** and F. Drummond. Bumblebee Health in Maine's Lowbush Blueberry Fields: an Investigation into Parasite and Pathogen Levels. Wild Blueberry Research and Extension Workers 2013 Annual Conference. Bangor, ME, October 24, 2013. Poster presentation.
- 2013** **Bickerman, K.E.** and F. Drummond. Bumblebee Health in Maine's Lowbush Blueberry Fields: an Investigation into Parasite and Pathogen Levels. International Conference on Pollinator Biology, Health and Policy. Pennsylvania State University, State College, PA, August 16, 2013. Poster presentation.

- 2012** **Bickerman, K.E.** and F. Drummond. 2012. Factors that influence
bumblebee health in blueberry fields. Annual Blueberry Hill Summer
Blueberry Field Day. Jonesboro, ME, July 18, 2012. Poster
presentation.
- 2012** **Bickerman, K.E.** and F. Drummond. 2012. Native bumblebee health.
The Xerces Society Pollinator Conservation Planning Short Course.
Unity, ME, May 15 2012. Oral presentation.

PROFESSIONAL ASSOCIATIONS

Entomological Society of America (ESA)
Maine Entomological Society (MES)

MANUSCRIPT REVIEWER

Journal of Economic Entomology
Journal of Kansas Entomological Society
Frontiers in Ecology and the Environment