Max McCarthy

Rutgers University
Graduate Program in Ecology & Evolution
14 College Farm Rd | New Brunswick, NJ 08901 USA
max.mccarthy@sebs.rutgers.edu
m.mccarthy0798@gmail.com

EDUCATION

Rutgers University, New Brunswick
Ph.D student, Graduate Program in Ecology & Evolution, (2020-present)
GPA: 4.0
Advisor: Rachael Winfree
Relevant coursework: Mathematical and Computational Methods in Theoretical Biology, Population Ecology, Advanced Ecological Data Analysis, Community Dynamics, Molecular Ecology, Methods in Plant Systematics

Tufts University
BS, Biology and Environmental Studies, *Summa cum laude*, (2020)
GPA: 3.85
Relevant coursework: Ecological Statistics and Data, Plant Physiology, Tropical Ecology and Conservation, Organic Chemistry, Biochemistry, Calculus II

GRANTS, FELLOWSHIPS, AND AWARDS

Entomological Society of America Annual Meeting Student Competition Award, Pollinator Ecology, 1st Place – 2023
American Museum of Natural History Theodore Roosevelt Memorial Fund - $1075 – 2023
Explorers Club Rolex Grant - $5000 – 2022
Garden Club of America Caroline Thorn Kissel Summer Environmental Studies Scholarship - $3000 - 2022
New England Botanical Society Graduate Student Research Award - $2,858 - 2022
Ted Stiles Award, Ecology and Evolution Graduate Student Association, Rutgers University - $500 - 2021
Small Grants Award, Department of Ecology and Evolution, Rutgers University - $1,000 - 2021
Presidential Fellowship, Rutgers University Graduate School-New Brunswick - $75,000 - 2020-2025
Dean's Fellowship, Rutgers University Graduate School-New Brunswick - $25,000 - 2020-2022
Benjamin G. Brown Scholarship - $1,750 - 2020
Barry Goldwater Scholarship - $7,500 – 2019
Top natural sciences, math, and engineering scholarship available to undergraduates in the United States
Thomas Harrison and Emily Leonard Carmichael Prize Scholarship - $1,295 - 2019
Nelson Family Summer Scholar Fund - $5,500 - 2019
Albert N. Votaw Memorial Summer Internship - $5,500 - 2018

PUBLICATIONS

Bonoan, R,. and **M. McCarthy**. 2022. Response of a temperate grassland ant community to burning. *Insectes Sociaux*. doi: 10.1007/s00040-022-00851-x

Dorian, N., **M. McCarthy,** and E. Crone. 2022. Ecological traits predict long-term phenological trends in solitary bees. *Journal of Animal Ecology*. doi: 10.1111/1365-2656.13778

Dorian, N., **M. McCarthy,** and E. Crone. 2024. Bringing population ecology back to wild bees. *Ecosphere*. doi: 10.1002/ecs2.4973

Giulian, J., **M. McCarthy,** S. R. Wilhelm, A. H. Aldercotte, and K. J. Turo. 2024. Rediscovering Colletes bradleyi (Hymenoptera: Colletidae): First notes on natural history, male description, and a range extension. *Journal of the Kansas Entomological Society*. doi: 10.2317/0022-8567-97.4.12

MANUSCRIPTS IN PREPARATION

McCarthy, M., D. Simpson, A. Aldercotte, C. Smith, T. Harrison, and R. Winfree. 2025. Separating sampling bias from abundance shows that different methods catch different wild bees. Submitted – *Ecology and Evolution*.

PRESENTATIONS

M. McCarthy. Small populations and local movement in a rare solitary bee, *Andrena parnassiae*. Oral presentation – Ecological Society of America. Aug. 10-15, 2025.

M. McCarthy. Population size estimates and foraging movement of a rare solitary bee, *Andrena parnassiae*. Oral presentation – Entomological Society of America. Nov. 10-13, 2024.

McCarthy, M. and R. Winfree. Wild bee sampling bias depends on method, location, and time. Oral presentation – Entomological Society of America. Nov. 4-8, 2023

McCarthy, M., N. Dorian, and E. Crone. Phenological trends in wild bees with diverse ecological traits. Oral presentation – Ecological Society of America. Aug. 2-6, 2021

McCarthy, M., N. Dorian, and E. Crone. Phenological change in solitary bees with diverse traits. Poster presentation – Ecological Society of America. Aug. 3-6, 2020

McCarthy, M. Phenological trends in wild bees with diverse life history traits. Senior Honors Thesis Defense – Tufts University, Medford, MA; Highest Honors. Apr. 29, 2020

McCarthy, M. Phenological trends in wild bees with diverse life history traits. Oral presentation – Tufts Summer Scholars Conference, Tufts University, Medford, MA. Aug. 8, 2019

McCarthy, M., N. Dorian, and E. Crone. Phenological shifts in bees with varying life history traits in the genus *Colletes*. Poster presentation – Northeast Natural History Conference, Springfield, MA; Student Poster Presentation First Place Award. Apr. 13, 2019

McCarthy, M. Relationship between floral abundance and pollen collection in two solitary bees. Oral presentation – Tufts REU Symposium, Tufts University, Medford, MA. Aug. 3, 2018

MEDIA

"To Learn Bees' Secrets, Count Them One by One". Full-page profile article on my PhD research project, *The New York Times*, Oct. 16, 2021

PROFESSIONAL SERVICE & OUTREACH

Buzzing Through the Garden State: A Journey in Jersey with Wild Bees; gave presentation on native bees of New Jersey to Rutgers Master Gardeners of Hunterdon County (September 10, 2025)

Spectacular Pollinators on Spectacle Island public outreach program; co-leader of several guided public walks focused on identifying and learning about major groups of pollinators in the Boston Harbor Islands National Recreation Area (Aug. 31, 2024)

National Park Service Pollinator Inventory; developed and implemented training for parks service interns in field identification of butterflies, bumble bees, and other wild bees and conducted inventory of pollinators at Minute Man National Historical Park, MA, with emphasis on non-lethal methods (Jul. 2023-Jun. 2025)

Intro to Pollinator Watching Workshop; co-leader of day-long program introducing participants to ecology and identification of bees, wasps, and other pollinators at Wing and a Prayer Nursery, Cummington, MA (Jul. 8, 2023)

Natural History of Native Bees: Biology, Ecology, Identification, and Conservation; co-leader of annual week-long seminar teaching 15 participants about ecology and field and microscope identification of wild bees at the Eagle Hill Institute, Steuben, ME (Jun. 25-Jul.1, 2023; Jun. 23-29, 2024; Jun. 22-28)

Rutgers University 4-H Youth Development Program; pollinator ecology speaker at Rutgers Gardens summer camp field trip (Jul. 13, 2022)

Bee taxon team expert, Northeast Association of Fish and Wildlife Agencies Regional Species of Greatest Conservation Need Taxon Review (2021-2022)

Rutgers' Ecology & Evolution Graduate Student Association; treasurer (2021-2023) and outreach chair (2023-2025)

Tufts Pollinator Initiative; founding member (Mar. 2019-May 2020)

Student-led group advocating for urban pollinator conservation through community engagement and outreach

MENTORSHIP

Undergraduate research mentor for Sedona Sabatino (Jan.-Apr., 2023), Anisha Verma (Jan.-Apr., 2024), and Sarah Taylor (Jan.-Apr., 2024); students worked in the Winfree Lab once a week for research credit, assisting with sorting and labeling of seeds and learning to use ImageJ software for automated seed counting for a study of pollen limitation in a rare wildflower

ADDITIONAL SKILLS

Software: Statistical analysis and modeling using R; population mark-recapture analysis using program MARK; Sequel database management

Photography: Advanced skills in insect macro photography, general wildlife photography, and editing of digital photographs in Adobe Photoshop and Lightroom

Field biology: Advanced skills in field identification of plant, insect, and bird species

Taxonomy: Advanced skills in species-level identification of bee specimens