

Rutgers University  
Graduate Program in Ecology & Evolution  
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## EDUCATION

### Rutgers University

Ph.D. Candidate, Ecology & Evolution (2014 – present, expected defense July 2019)

Committee: Rachael Winfree (Adviser), Olaf Jensen, Malin Pinsky, Jonathan Dushoff (McMaster University)

### Swarthmore College

BA, Majors in Biology and Linguistics, 2011

## SCIENTIFIC MANUSCRIPTS

**Roswell, M.**, J. Dushoff, and R. Winfree. “A conceptual guide to measuring species diversity” *In revision; Oikos*

**Roswell M**, Dushoff J, Winfree R. “Male and female bees show large differences in floral preference.” *PLoS*

*One*. 2019;14: e0214909. doi:10.1371/journal.pone.0214909

MacLeod M., J. Reilly, D. Cariveau, M. Genung, **M. Roswell**, J. Gibbs, and R. Winfree. How much do rare and crop-pollinating bees overlap in identity and flower preferences? *In revision; Journal of Applied Ecology*

## GRANTS (\$40,200) & FELLOWSHIPS (\$258,000)

Rutgers Ecology & Evolution Graduate Program Small Grant (2016) \$1,000

Federal Conservation Innovation Grant (addendum to existing grant, *Next steps in pollinator conservation... PI M. Vaughn, Co-PI R. Winfree & others*) (2015) \$33,000

Rutgers University Graduate School Conference Travel Award (2015) \$200

Rutgers University SEBS Graduate Pre-Dissertation Award (2015) \$2,000

Rutgers University Graduate School Excellence Fellowship (2014) \$30,000

NSF Graduate Research Fellowship (2014) \$102,000 stipend +\$36,000 scholarship

NSF GAANN Fellowship in Urban Ecology (2014, *declined*) \$90,000

NY Times Sustainability Grant (awarded to found college Honey Bee Initiative) (2009) \$500

Joel Dean Fellowship (awarded to research dying language in Peruvian Amazon) (2009) \$3500

## PRESENTATIONS

Londono, K., **M. Roswell**, and M. Genung. “Floral architecture and bee behavior determine whether a flower visitor is an effective pollinator” (Poster). Aresty Research Symposium, May 2019

**Roswell, M.**, and R. Winfree. “Male and female bees visit different flower species” (Talk). Annual meeting of the Ecological Society of America, Aug. 2017

**Roswell, M.**, D.P. Cariveau, and R. Winfree. “The importance of unequal sampling for estimating species richness” (Talk). Annual Meeting of the Ecological Society of America, Aug. 2015

**Roswell, M.**, D.P. Cariveau, and R. Winfree. “Variability reduces effort required to compare site biodiversity” (Poster). Annual Meeting of the Ecological Society of America, Aug. 2014

Cariveau, D.P., N. Williams, K. Ward, **M. Roswell**, et al. “How to assess pollinator restorations efficiently” (Poster). Int’l Conf. on Pollinator Biology, Health and Policy, Aug. 2013

**Roswell, M.**, and J. Harte. “Size matters for detecting spatial patterns of climate-driven competition” (Poster). Annual meeting of the Ecological Society of America, Aug. 2011

## TECHNICAL PUBLICATIONS

Ward, K., D. Cariveau, E. May, **M. Roswell**, et al. 2014. *Streamlined Bee Monitoring Protocol for Assessing Pollinator Habitat*. Portland, OR: The Xerces Society for Invertebrate Conservation.

The Munique Talking Dictionary- an online “talking” lexicon with both Munique- Spanish and Munique-English interfaces. June 2011. Available online at <http://munique.swarthmore.edu>

Una breve descripción del idioma Munique: Yurimaguas, Peru, August 2009. Available online at [http://www.cabeceras.org/cap\\_my\\_r\\_gramatica\\_sep09.pdf](http://www.cabeceras.org/cap_my_r_gramatica_sep09.pdf)

## TEACHING

*Lecturer, "Pollination Ecology" Rutgers University.* Proposed, developed, taught upper-level, 4-credit ecology course with programming in R (Spring 2019)

*Adjunct Professor, "General Ecology and Lab" Rider University.* Developed and taught first half of upper-level, 4-credit ecology course (Fall 2018)

*Lecturer, "Pollination Ecology," Millsaps College & Freedom Summer Collegiate.* Developed curriculum for and taught 2 sections of 2-credit ecology course (Jun. 2017)

*Guest lecturer, "Conservation Ecology," Rutgers University* (Apr. 2018)

*Guest lecturer, "Agroecology," Rutgers University* (Feb. 2018)

*Guest lecturer, "Introduction to Apiculture," Rutgers University* (Feb. 2017, 2018)

*Guest lecturer, "Introduction to Environmental Science," Rutgers University* (Nov. 2016, 2017)

*Guest lecturer, "Plant Diversity and Evolution," Rutgers University.*

Designed & graded traits and diversity assignment (Dec. 2016)

Designed & graded pollination assignment (Nov. 2015)

*Faculty mentor* for undergraduate instructor of 1-credit course for first year students. (Jun.-Dec. 2016)

*Science Educator, Nature Bridge.* Designed and taught 3-5 day outdoor science courses. (2014)

*Scientist, Wondergy Inc.* Led 1-2 hour long interactive science explorations, up to 20 groups/week (2012-2013)

## OUTREACH

*Bees and Pollination.* Duke Farms Master Ecologists (workshop) – Sep. 2018

*Does habitat enhancement benefit rare bees?* New Jersey Wildlife Society (lecture) – May 2018

*Introduction to bees and pollination.* Master Gardeners of Passaic County (workshop) – Mar. 2018

*Do male and female bees like different flowers?* Lord Stirling Environmental Center (lecture) – Jan. 2018

*Luring pollinators for lurid favors.* Master Gardeners of Monmouth County (lecture) – Feb. 2017

*What are native bees?* Princeton Academy (workshop) – Dec. 2016

*Wild bees can help with pollination concerns.* New Jersey Agricultural Convention (lecture) – Feb. 2016

*Why Native Bees?* The Native Plant Society of Bergen County (lecture) – Nov. 2015

*Asking questions about native bees.* Native Plant Society of New Jersey (keynote lecture)– Nov. 2014

*Streamlined bee monitoring protocol for assessing pollinator habitat.* Duke Farms (workshop) – Jun. 2014

*Pollinator Biodiversity.* Rutgers Gardens (lecture) –Sep. 2013

## MENTORING

*Professional reference* to former students and technicians; writing medical school recommendations

*Mentor* 10 Rutgers undergraduates and technicians: help applying for jobs, fellowships, and graduate programs, securing funding for independent research, navigating degree and GPA. (2016-present)

*Co-Adviser* for Honors Thesis: "Morphological trait matching between bees and flowers drives pairwise interactions." Guided literature review, analysis, writing, presentation. (2015-2016)

*Research Mentor* for 3 Rutgers undergraduates. Guided research design, analysis, presentation. (2014-2015)

## SERVICE

*Reviewer, Ecology Letters, Journal of Animal Ecology; Natural Areas Journal; Rhodora*

*Reviewer, New Jersey Junior Science & Humanities Symposium* (2015-2018)

*Organizer, graduate program "data club"* (2016, 2019)

*Volunteer, Shore Bowl regional oceanography competition, Rutgers University* (2016, Moderator, 2017)

## PROFESSIONAL DEVELOPMENT

*Curriculum Workshop and Teaching Orientation, Millsaps College* (May 2017)

*Introduction to College Teaching, Rutgers University* (Jan.-May 2017)

## LANGUAGE PROFICIENCY

English (Native); Spanish (Proficient); French (Conversational)

## References

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