

PROMOTION RECOMMENDATION  
The University of Michigan  
College of Literature, Science, and the Arts

Regina S. Baucom, associate professor of ecology and evolutionary biology, with tenure, College of Literature, Science, and the Arts, is recommended for promotion to professor of ecology and evolutionary biology, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	2006	University of Georgia
B.A.	1999	University of Tennessee, Knoxville

Professional Record:

2020-present	Associate Chair for Graduate Studies, Department of Ecology and Evolutionary Biology, University of Michigan
2019-present	Associate Professor, Department of Ecology and Evolutionary Biology, University of Michigan
2013-2019	Assistant Professor, Department of Ecology and Evolutionary Biology, University of Michigan
2010-2013	Assistant Professor, Biological Sciences Dept, University of Cincinnati
2006-2009	Post-doctoral Research Associate, Department of Genetics, University of Georgia

Summary of Evaluation:

Teaching: Professor Baucom is an outstanding teacher and mentor to graduate and undergraduate students alike. She teaches annually in our large (400+) person undergraduate Genetics course, the only course required for all eight majors in the Program in Biology. She receives outstanding E&E scores for this course and responded to the challenges of the pandemic with great innovation, turning it into an online course with many opportunities for active learning in real time. She has also taught in our required course for all first-year graduate students, which provides them with the academic and professional skills needed to succeed in graduate school. Since joining the UM faculty, Professor Baucom has mentored five Ph.D. students, one master's student, four post-doctoral fellows, and thirty-four undergraduate students in her research laboratory, including many with identities underrepresented in ecology and evolutionary biology.

Research: Professor Baucom studies the genetic and ecological mechanisms of adaptive change, often by studying the evolution of herbicide resistance. More specifically, her work has addressed the genetic, historical, and environmental factors that shape functionally important trait variation in wild and weedy plant systems. She is considered a world expert in the ecology and evolution of herbicide tolerance and resistance. Professor Baucom's research is published regularly in the most impactful journals in ecology and evolutionary biology. This research is well-funded, including support from both the National Science Foundation and the U.S. Department of Agriculture. Professor Baucom is primed to continue making key contributions to the fields of ecology and evolution.

### Recent and Significant Publications:

Josephs, E.B., Van Etten, M.L., Harkess, A., Platts, A., & Baucom, R.S. (2021). Adaptive and maladaptive expression plasticity underlying herbicide resistance in an agricultural weed. *Evolution Letters*, 5(4), 432-440.

Van Etten, M.L., Soble, A.S., & Baucom, R.S. (2021). Variable inbreeding depression may explain associations between the mating system and herbicide resistance in the common morning glory. *Molecular Ecology*, 30(21), 5422-5437.

Van Etten, M.L., Chang, S.M., Lee, K.L., & Baucom, R.S. (2020). Parallel and nonparallel genomic responses contribute to herbicide resistance in *Ipomoea purpurea*, a common agricultural weed. *PLoS Genetics*, 16(2), e1008593.

Colom, S.M. & Baucom, R.S. (2020). Belowground competition can influence the evolution of root traits. *The American Naturalist*, 195(4), 577-590.

Service: Professor Baucom has made extraordinary leadership, governance, and service contributions to the department as well as her professional field. At the departmental level, her formal service has included the graduate admissions committee, the graduate affairs committee, and service as the associate chair for graduate studies. She has also organized the NextProf meetings for EEB and a multi-department Green Life Symposium. In her professional community, Professor Baucom has been an elected council member in the two predominant societies in evolutionary biology, and the chair of the Diversity committee in the third. In addition to these formal service roles, Professor Baucom has been an effective advocate for diversifying academia, making it more inclusive, and supporting mental health and wellness for students and faculty alike.

### External Reviewers:

Reviewer (A): “The thing about Dr. Baucom that has always intrigued me is her ability to integrate across levels, both in terms of her approach to answering questions (e.g., her ability to apply new methodologies) and differing aspects of the biology of her study systems (i.e., physiology, ecology, and genetics). This makes her research program compelling and multidimensional—of interest to ecologists and evolutionary biologists alike.”

Reviewer (B): “Dr. Baucom has carved out a unique niche in evolutionary biology by focusing on weeds. She is probably the best-known scholar of weeds working in evolutionary biology. This is a field dominated by applied and agricultural researchers, and Dr. Baucom has wisely used the large descriptive and functional base of the field to expand both our understanding of weeds and of evolutionary processes...with a powerful approach and novelty she has made a real impact on the field of evolutionary biology. Her work has become textbook examples of real-world evolution.”

Reviewer (C): “Dr. Baucom’s novel and unique contributions to advancing scholarship in this field rest on her synthesis of research at the intersection of evolutionary and applied studies. Her work addresses several fundamental evolutionary questions—including, for example, when and how frequently parallel evolutionary changes are expected, or the role of fitness tradeoffs in maintaining genetic variation— but creatively links these questions to more applied concerns, most especially the management of weed populations.”

Reviewer (D): “I can say without hesitation that Dr. Baucom is one of the leaders in the study of plant adaptation...she is truly an innovative and exemplary scientist who (and will continue to make) outstanding contributions to the field.”

Reviewer (E): “She has a stunning record of advocacy for broadening representation in the fields of ecology, evolution and behavior of egregiously under-represented sectors of human diversity. I particularly note her service leading The American Society of Naturalist’s DEIJ committee from its inception, setting in place processes for the committee to promote equity and inclusion throughout our fields...She was highly effective in this role.”

Reviewer (F): “[Professor Baucom] is an outstanding scientist who publishes high quality papers on which she is primarily in leadership roles. She is a colleague who cares about diversifying STEM in her local and her professional community and invests considerable effort and time towards that goal, from her very diverse lab group to her multiple extramural efforts in this area. She also has extensive professional service to her main scientific societies, journals, and to the federal agencies who fund her work.”

Summary of Recommendation:

Professor Baucom has developed a vigorous and well-funded research program that studies the ecology and evolution of herbicide resistance as well as evolutionary genetics more broadly. She is a dedicated educator who has provided excellent educational experiences to our students and has helped shape curricular reform in one of our large core classes. Professor Baucom has made extraordinary service contributions to our department, especially in supporting our graduate students, and works to increase diversity, equity, and inclusion within the department and in her field more broadly. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor Regina S. Baucom be promoted to the rank of professor of ecology and evolutionary biology, with tenure, College of Literature, Science, and the Arts.



Anne Curzan, Dean  
Geneva Smitherman Collegiate Professor of  
English Language and Literature, Linguistics,  
and Education  
Arthur F. Thurnau Professor  
College of Literature, Science, and the Arts

May 2023