

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

L. Lacey Knowles, associate professor of ecology and evolutionary biology, with tenure, and associate curator, Museum of Zoology, College of Literature, Science, and the Arts, is recommended for promotion to professor of ecology and evolutionary biology, with tenure, and curator, Museum of Zoology, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	1999	State University of New York, Stony Brook
M.S.	1993	University of South Florida
B.S.	1989	University of North Carolina

Professional Record:

2008 – current	Associate Professor, Department of Ecology and Evolutionary Biology, and Associate Curator, Museum of Zoology, University of Michigan
2003 – 2008	Assistant Professor, Department of Ecology and Evolutionary Biology, and Assistant Curator, Museum of Zoology, University of Michigan
2001 – 2002	Post-doctoral Fellow, National Institutes of Health Postdoctoral Excellence in Research and Teaching, Center for Insect Science, University of Arizona
1999 – 2001	Post-doctoral Fellow, National Science Foundation Research Training Group, Analysis of Biological Diversification, University of Arizona

Summary of Evaluation:

Teaching – Professor Knowles is a very effective teacher at all levels. By employing teaching methodologies that encourage discussion and bringing empirical examples into the classroom, she engages her students and generates enthusiasm for biology and evolutionary science, and enhances their experience in the laboratory with thoughtful exercises and engaging field trips. As a result student scores and comments have been excellent. She is also a superb mentor. Besides supervising 40 undergraduate and graduate students in directed studies, she has served as advisor for thirteen doctoral students and committee member for another ten. Students consistently comment on the dynamic and challenging environment she creates in her laboratory.

Research – Professor Knowles is a world-renowned evolutionary biologist who has made significant contributions to the study of speciation and species divergence. She is one of the founders and chief developers of “statistical phylogeography,” which uses statistical analysis of spatial patterns of gene lineages sampled from closely related species and/or populations to infer underlying ecological and evolutionary processes of divergence. Professor Knowles has published extensively and produced some of the most cited papers in her area. She currently has three major National Science Foundation grants. She is also curator of insects at the Museum of Zoology, where her primary focus has been on biodiversity informatics. She engages in extensive fieldwork with her students and in outreach activities targeting the local public.

Recent and Significant Publications:

- “Estimating phylogenetic relationships despite discordant gene trees across loci: The species tree of a diverse group of feather mites (Acari: Proctophyllodidae),” *Parasitology* (special issue on phylogenetics), 138, 2011, pp. 1750-1759.
- “Exploring the population genetic consequences of the colonization process with spatio-temporally explicit models: Insights from coupled ecological, demographic, and genetic models in montane grasshoppers,” with D. F. Alvarado-S, *Molecular Ecology*, 19, 2010, p. 3727.
- “Statistical phylogeography,” *Annual Review of Ecology, Evolution, and Systematics*, 40, 2009, pp. 593-612.
- “Delimiting species without monophyletic gene trees,” with B. C. Carstens, *Systems Biology*, 56, 2007, pp. 887-895.

Service – Professor Knowles has served on key graduate student committees, as well as in multiple faculty searches, and was recently appointed as associate chair for graduate studies. Externally, she has served in an editorial role for five of the leading journals in her field, reviewed manuscripts for 28 journals. She sits on review panels for the National Science Foundation and for international funding agencies. She has been elected to the councils of the Society of Systematic Biology (also president-elect in 2012, president 2013, and past-president 2014) and the Society for the Study of Evolution.

External Reviews:

Reviewer (A)

“...in the past five years [she] has emerged as one of the world leaders in the field of multilocus phylogenetics and phylogeography. Her papers have had a broad impact...her vision for the field has fundamentally changed how many laboratories collect and analyze their data. ... She is truly one of the four or five researchers internationally that has a breadth and productivity to move the field forward in productive ways.”

Reviewer (B)

“Lacey has made phylogeographic analysis both robust and realistic. Her research program is outstanding and increasingly involves very able postdocs and graduate students. ...I consider her work highly significant, that advances the field significantly, and I strongly support her promotion.”

Reviewer (C)

“I think Lacey’s work has achieved the highest stature and attention within the field. Everyone knows Lacey and everyone thinks very highly of her science and her service contributions. ...Lacey’s dedication to mentoring and service are well-known throughout the field. She is always on the list of volunteers for mentoring and outreach programs at meetings...”

Reviewer (D)

“Lacey is an innovator and leader in the field of evolutionary biology. She and her postdocs and students have developed many of the techniques that are widely used in phylogeographic studies today. ... Lacey Knowles has a truly impressive record.”

Reviewer (E)

“It should be immediately apparent that she is a highly active and productive...mentor to many Ph.D. students (she already has about as many of them as I have had in my whole career). ... She has not simply assimilated the current work on the gene tree / species tree problem, she helped establish it in the first place. And in her current work she has extended it in novel and intriguing ways.”

Reviewer (F)

“In my view, she has become the world leader in statistical phylogeography and in the reconstruction of species-level phylogenies. ... Dr. Knowles has also demonstrated her ability to successfully attract financial support for her research.”

Reviewer (G)

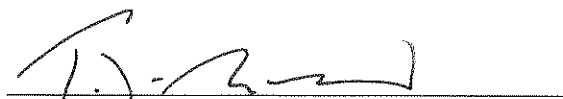
“She has become an internationally recognized authority on methods of phylogenetic, gene-genealogical, and phylogeographic analysis... To have been an associate editor of both genetics journals...and the major journal in systematics...is a remarkable and almost unique accomplishment...”

Reviewer (H)

“Her record would easily earn her a full professorship here at my institution. ... Her leadership in the field has also come because she has stepped forward directly to shape its ideas. Several of her papers are perspective-setting, standing back and re-interpreting the field.”

Summary of Recommendation:

Professor Knowles is an internationally-recognized scholar in evolutionary biology and an outstanding teacher and leader in her discipline. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor L. Lacey Knowles be promoted to the rank of professor of ecology and evolutionary biology, with tenure, and curator, Museum of Zoology, in the College of Literature, Science, and the Arts.



Terrence J. McDonald
Arthur P. Thurnau Professor,
Professor of History and Dean
College of Literature, Science, and the Arts

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