Seminar

JANETTE BOUGHMAN

Fellow, SCAS.
Professor of Integrative Biology, Michigan State University, East Lansing

How is Biodiversity Created and Maintained in Our Changing World?

Tuesday, 15 May, 11:15 a.m.

In the Thunberg Lecture Hall
SCAS, Linneanum, Thunbergsvägen 2, Uppsala
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ABOUT JANETTE BOUGHMAN

Janette Boughman is currently affiliated with the Department of Integrative Biology; the Ecology, Evolutionary Biology, and Behavior program; and the Beacon Center for the Study of Evolution in Action at the Michigan State University. She earlier held the position of Visiting Scientist at the Swiss Federal Institute of Aquatic Science and Technology and was Assistant Professor of Zoology at the University of Wisconsin–Madison and a Postdoctoral Fellow and Assistant Lecturer at the University of British Columbia. She has been awarded a Fulbright Fellowship in Arctic Research in Iceland, is the Vice President of the Society for the Study of Evolution, and has been an NSF International Research Fellow, a NATO Postdoctoral Fellow, an NIH Postdoctoral Fellow, and a Smithsonian Fellow. She earned a Ph.D. in Biology at the University of Maryland and an MA in Linguistics from the University of New Hampshire.

Boughman's research uses an integrative approach to investigate the evolution of behavior and the process of speciation. She has authored sixty scientific research papers in leading international scientific journals. She has been continuously funded by major grants from the US National Science Foundation for twenty-three years and currently leads an NSF Dimensions of Biodiversity collaborative research program on rapid evolution in response to changing environments.

At SCAS, Boughman will work with Maria Servedio on joint projects that use a theoretical approach to understand how a particularly powerful form of sexual selection affects the speciation process.

ABSTRACT

My research focuses on understanding the diversity of life on earth by studying the processes that give rise to new species. A long-standing question is whether the same processes that produce adaptation also produce new species. We know that selection is the major force behind the evolution of many intriguing adaptive traits that vary from one species to the next - is it also a primary force that produces new species? To address this I study both natural selection and sexual selection, and their roles in the speciation process. I am particularly interested in how behavior influences diversification and how behavior itself evolves. A number of behaviors are likely to influence the likelihood of mating with other species, including competitive behavior among males for the opportunity to court females, and female mate choice. In turn, these behaviors are shaped by ecological conditions, the social environment, and learning. I have tested the importance of these factors on behavioral evolution by comparing populations that differ in ecology, and by conducting experiments that manipulate ecology, the social environment, and opportunities for learning. I have also investigated how differences in mate choice and male competition affects speciation by testing whether they reduce the likelihood of mating with other species, i.e., increase reproductive isolation. After laying the groundwork for these ideas, I will present results from several experiments conducted in my lab over recent years. I will finish by describing the project that I am working on with Maria Servedio during our time here at SCAS.