

B. F. Skinner Lecture Series

PCH;

Behavioral Interference Between Species

Chair: Darlene E. Crone-Todd (Salem State University)

GREG GRETHER (University of California, Los Angeles)



Gregory F. Grether, PhD, is a professor of Ecology and Evolutionary Biology at the University of California Los Angeles (UCLA) and a fellow of the Animal Behavior Society. He completed his Ph.D. at UC Davis in 1995, moved to UC Santa Barbara with a NSF postdoctoral fellowship in 1996, and moved farther south to join the UCLA faculty in 1999. His field research has taken him farther south still, mostly to tropical rainforests. Although his first taxonomic interest was primates, he was influenced at a critical stage in graduate school by Krogh's principle, "For many problems there is an animal on which it can be most conveniently studied." Over the years, Greg and his students have studied a diverse assortment of animals, including insects, arachnids, fish, salamanders, lizards, birds and mammals. The common thread through all the projects is the role of behavior in ecological and evolutionary processes. He believes in the importance of studying the behavior of animals in their natural habitats, and many of his projects include field-based analogs of experiments that are traditionally carried out in the laboratory. He has also made novel contributions to evolutionary theory, most notably the theories of genetic compensation and agonistic character displacement.

Abstract: Aggression and reproductive interference are forms of behavioral interference that occur commonly between closely related species. Such between-species interactions can, and in most cases probably do, arise as a byproduct of activities that are part of the normal lives of animals, such as defending resources and attracting mates. However, the ecological and evolutionary consequences of behavioral interference between species can be quite distinct from the effects of the corresponding within-species interactions. Behavioral interference can determine whether species are able to coexist, and if they do coexist, how they evolve subsequently in response to each other through natural selection. Behavioral interference was probably part of human evolution, and could help explain why we are the only extant species in the genus *Homo*, but this talk will focus on what we know, with greater certainty, about the role of behavioral interference in the ecology and evolution of other animals. If behavioral interference is a costly interaction at the population level, why does it persist? In what ways, and to what extent, does behavioral interference affect the geographic ranges of species? How does behavioral interference affect the spread of invasive species, or the fate of endangered species? What is the evidence that behavioral interference has evolutionary consequences? I will use examples from the literature, as well as from my own research, to answer these and other questions, while striving to present a balanced perspective on the subject.