

Title: Evolutionary and Applied Studies of Ejaculate Composition in Diptera

Laura Sirot, Department of Biology, The College of Wooster, Wooster, Ohio

After mating, females of many species undergo a distinct set of physiological and behavioral changes. In many species, these changes are induced, at least in part, by components of the ejaculate. Of all species in which ejaculate-mediated traits have been studied thus far, the causes and consequences of these changes are most thoroughly understood in the model organism, *Drosophila melanogaster*. In this species, proteins produced in the male reproductive accessory glands are associated with changes in a wide range of female traits including activity level, feeding and digestion, response to courtship, mating, egg production, sperm storage and release, immune defense, and lifespan. This wealth of knowledge provides a foundation for investigations of ejaculate-mediated traits in other organisms, but, particularly, in other Dipteran species. The goal of this talk is to highlight recent efforts by our group (1) to identify the traits that are affected by ejaculates and the particular components of the ejaculate implicated in causing these changes in *Aedes* mosquitoes and (2) to discover the causes and effects of intraspecific variation in the production and transfer of these ejaculate components in *D. melanogaster*.