

Population Genetics Study of *Lutzomyia vexator*

My research has been a study of the genetics of *Lutzomyia vexator*, the most common sand fly in North America. Dr. Joseph J. Schall's lab has been doing research on *Plasmodium mexicanum*, a strain of lizard malaria, for over thirty years now. This sand fly acts as a vector for the malaria parasite in California, where the samples I used were gathered from. It also acts as a vector for many other organisms throughout the country, but there have not been any studies so far of the type we are performing. The purpose of this study is to determine the genetic diversity, geographic genetic differentiation (on a fine scale), effective population size, and time to last common ancestor, all through the use of microsatellite genetic markers. The study is not yet complete, although the bulk of the laboratory work has been finished. We still need to input the rest of the data and perform the analysis. I may have conclusions to report by the time of the Student Research Conference, but I may not.