

Abstract- Lynx spider *Peucetia viridans* (Araneae, Oxyopidae)

The relationship between fitness and the genetic variability was investigated in the green lynx spider *Peucetia viridans*. In 2010 and 2011, female *P. viridans* and their egg sacs were collected from Kenneth Hahn State Recreation Area, Los Angeles, CA (2010, $n=60$; 2011, $n=150$). In lab, three measures of female body condition and 11 measures of reproductive performance were determined for each spider. With samples from both years, we determined the phosphoglucose isomerase (PGI) genotypes for each female using allozyme electrophoresis. With 2010 spiders, PGI^{BC} females made more egg sac silk relative to egg sac mass and offspring number than PGI^{CC} females, while PGI^{CC} females invested more in clutch and egg sac mass relative to their own mass than PGI^{BC} females. In 2011, PGI^{BC} and PGI^{CC} females did not significantly differ for any reproductive indices. The fact that significant differences among PGI genotypes were detected in 2010 but not in 2011 could be due to many factors. One factor which differed greatly between years was rainfall, since in 2010-2011, Los Angeles had nearly 4" more rain than in 2009-2010. Thus, prey items for *P. viridans* may have been easier to find in 2011 than in 2010, resulting in generally heavier females and consequently more minimal differences in reproductive performance among genotypes in 2011.