

Hybridization and Food Effects in *Pogonomyrmex* Harvester Ants

Hybridization is often a by-product of close contact populations overlapping over time. However, the specific costs and benefits of hybridization are frequently unclear. In the harvester ant species *Pogonomyrmex rugosus*, found in the southwestern United States, historical hybridization with a second species, *P. barbatus*, has resulted in several hybrid lineages. These lineages have been observed to match, and sometimes exceed colony growth rates of the parent species under laboratory conditions; However, the natural ranges of the hybrids do not extend into the resource-poor desert habitat of *P. rugosus*. This suggests that the growth advantages of hybridization may be dependent on environmental resource availability. In this study we investigated the effect of protein resources on colony growth rates of *P. rugosus* and two hybrid lineages. Colonies of each sub-group (parental, “H” lineage, and “J” lineage) were divided into two treatments (protein versus non-protein diet) and counted once every four weeks. Preliminary results suggest a clear food effect across all sub-groups, with protein diet colonies showing increased colony growth; trends between sub-groups, though less distinct, show a larger food effect in hybrid lineages than in parental colonies. Our results show that the presence of protein in ant diets leads to increased growth and suggest that hybridization may lead to an increased ability for hybrid lineages to utilize protein compared to *P. rugosus* populations. The lack of hybrids in resource-poor habitats of *P. rugosus* may be a result of hybridization benefits being limited to areas in which protein is readily available to be utilized.