

## **Part A: Summaries of Project Request**

### **Title: Prevalence of Tickborne Diseases in South Texas**

## **Professional Summary**

We hypothesize that *Amblyomma cajennense* ticks are a significant factor in the maintenance of infectious disease in wildlife in the South Texas ecosystem. We have demonstrated that *A. cajennense* is now the dominant tick in this region. Although this tick is currently limited in distribution to South Texas and Florida, it is likely to become more widely distributed in the United States as global warming increases. As *A. cajennense* feeds aggressively on humans, the potential for zoonotic transmission of those diseases to humans is high. Thus, this tick will represent an increasing risk to the US population, agriculture, and wildlife over time.

**Specific Aim 1.** To examine the influence on environmental variables on *A. cajennense* ticks and their natural life cycle in South Texas.

**Specific Aim 2.** To examine the disease potential of *A. cajennense* ticks, and identify host species in the South Texas biome.

### **The long-term goal is:**

1. To gain an understanding of the natural life cycle of the *A. cajennense* tick, and the environmental variables that can be used to predict its activity.
2. To gain an understanding of the disease burden in ticks and hosts, and to begin to correlate that disease burden with ecological variables.