TITLE:

Ecological network approach to determine the vectors and reservoirs of a tropical zoonosis

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RESEARCH PROJECT DESCRIPTION

Arthropod-borne zoonoses are responsible for many disease emergence events (e.g. Zika, West Nile, Chikungunya) in recent years. Identifying the animal reservoirs and natural transmission cycles of emerging pathogens is crucial to prevent epidemics. Despite the fact that 62% of all human pathogens are classified as zoonoses, the reservoirs of these diseases are rarely identified due to the logistical challenges of conducting laboratory-based experimental infections in candidate host species. This lack of epidemiological understanding may be overcome through innovative, interdisciplinary field methods. We have designed an innovative, targeted field-based approach can lead to reservoir identification, and are conducting a proof-of-concept trial in a forested site 20 minutes from UF. The medical student will have the opportunity to conduct field studies, including rodent trapping, mosquito collection, and running PCRs.