

Regaining Lost Ground? Local Distributional Changes of the Yellow Fever Mosquito in Recent History - Kristen Hopperstad

- A. Invasive species impact local biota
 - 1. Competition
 - 2. Predation
 - 3. Exclusion
 - 4. Hybridization
 - 5. Introversion
 - 6. Extinction
 - 7. Rapid evolution
- B. Main question - how has *Ae aegypti* responded to the *Ae albopictus* invasion
 - 1. *Ae aegypti* is a naturalized species
 - 2. *Ae albopictus* invaded in the 1990s
 - 3. What happened
 - a) *Aegypti* numbers declined
 - (1) Larval competition
 - (2) Mating interference
 - (3) Other factors
 - b) Some *aegypti* are still present
 - (1) Habitat segregation
 - (2) Can *aegypti* re-expand into habitat where they were before
- C. Study
 - 1. Landscape approach
 - a) Has *aegypti* distribution changed recently
 - b) Why
 - 2. Genetic approach
- D. First study
 - 1. Has the distribution of *Ae aegypti* changed in Palm Beach County FL
 - 2. Hypothesis
 - a) No change
 - b) Positive change
 - c) Negative change
 - 3. Collect eggs in the field across different types of areas
 - 4. Rear in lab
 - 5. ID larvae
 - 6. GIS classification
 - a) Bare ground
 - b) Building
 - c) Coarse or fine vegetation
 - d) Freshwater
 - e) Saltwater
 - f) Pavement
 - g) ??
 - 7. Results
 - a) *Ae aegypti*
 - (1) More urban
 - (2) More coastal
 - b) *Ae albopictus*
 - (1) More suburban and rural
 - (2) More inland
 - c) Some change seen in distribution at 8 km from the coast

- d) Looked temperature and humidity at each site over time
 - (1) Some change in temperature
 - (2) No change in humidity
- e) Landscape difference over time
 - (1) Bare ground decreased
 - (2) Buildings put into bare ground site
- 8. Conclusion
 - a) There was a change
 - b) Abiotic factors did not seem to change
 - c) Need to re sample and do some statistics
- E. Genetic study
 - 1. Collected mosquitoes in FL and GA
 - 2. Working on analysis
- F. And now for something completely different - AMCA Young Professionals
 - 1. Promote interactions between older professionals and new entomologists
 - 2. Who are YP
 - a) Less than 5 years in the professional world
 - b) All areas of mosquito studies
 - 3. Symposium
 - a) 8 different mosquito-related fields
 - b) 2 experts in each field
 - c) YP circulate through the areas to ask questions
 - 4. YP Social
 - 5. Highlight research and professional achievements of YPs
 - 6. Social media
 - a) Facebook group
 - b) Twitter
 - c) LinkedIn account
 - 7. YP Spotlight
 - 8. AMCA has awarded 7 travel stipends of \$1000 each