

Eastern Equine Encephalomyelitis Virus - Nathan Burkett-Cadena

- 1) Background
 - a) First recognized in MA in 1831 - 75 horse died
 - b) One of the most pathogenic of all mosquito-borne viruses
- 2) Ecology
 - a) Clustering seen in "plain" ecotypes
 - b) Transmission foci are freshwater swamp areas
- 3) Transmission cycle
 - a) Enzootic vectors - primarily *Culiseta melanura*
 - b) Bridge vectors - many species
 - c) Primary reservoir - birds
 - d) Temporal clustering
 - i) Edman & Taylor. 1968. Science
 - ii) Feeding shifts - birds to mammals
- 4) Study
 - a) Muscogee National Forest
 - b) Collected resting mosquitoes
 - i) Blood meal analysis
 - (1) Primary avian hosts
 - (a) Great blue heron
 - (b) Yellow-crowned night heron
 - (2) Correlation between when birds are in rookery and when mosquitoes are feeding on the birds
 - ii) Overwintering
 - (1) Probably not in avian host
 - (a) Short viremic period
 - (b) Too few vectors over the winter
 - (c) EEE rarely found in migrating birds
 - (2) Probably not in primary vector
 - (3) What about bridge vectors?
 - (a) Fumigated hollow trees
 - (i) Found *Anopheles punctipennis*, *Cx erraticus*, *Cx peccator*, *Ur sapphirina*
 - (ii) No positives found
 - (b) Collected from animal dens - no positives found
 - (4) How about other vertebrate hosts?
 - (a) Reptiles and amphibians
 - (i) Amphibians did not become viremic
 - (ii) Reptiles did but few species became viremic enough to serve as a reservoir - needs more work
 - (b) Other mammals???
 - c) Host reproductive biology drives timing of EEEv epidemics