Entomological and Small Mammal Studies Following a LaCrosse Outbreak in North Carolina in 2005 – Brian Byrd

a) Economic and social impacts
   i) Lifelong sequelae - >$3 million over a lifetime
   ii) Medical costs – average $33,000
   iii) Definite social and family impact
b) Primary vector – *Ochlerotatus triseriatus*
   i) Treeholes
   ii) Artificial containers
   iii) Tires
c) Implicated vectors
   i) Aedes albopictus
   ii) Oc japonicus
d) Transmission strategies
   i) Zoonotic: normal host – small mammals
   ii) Transovarial transmission (*Oc triseriatus*)
e) Hughes et al. Comparitive potential… J Med Entomol. 2006. 43(4): 757-61
f) Number of reported LAC cases is on the rise
   i) Under-reported
   ii) More people living in endemic areas
g) Study
   i) Mosquito collection
      (1) 4 methods used
      (2) Landing-mouth aspiration (LMA) worked well for all three species
      (3) Collected over 10 days
      (4) 89% collected were *Oc japonicus* and *Ae albopictus*
      (5) Low numbers of *Oc triseriatus* collected
      (6) LMA collected mosquitoes all day
      (7) All tested
   ii) Small mammal collection
      (1) Focused at three residence
      (2) Needed special considerations due to white squirrel populations
      (3) Sciurid collection
         (a) 6 chipmunks – 1 LAC+
         (b) 13 eastern gray squirrels – 3 LAC+
   iii) Family data
      (1) Lack of information
      (2) Lack of medical follow-up
      (3) Lack of county/state response
   iv) Deliver the Dream Retreat, March 2006
      (1) For families of ill children
      (2) Asked for education about problem
h) Question – do all 3 mosquito species feed on small mammals
   i) *Oc japonicus* will feed on hamsters in the lab
   ii) All typed bloodmeals from *Oc japonicus* have been from large mammals

iii) Other two species do feed on small mammals

i) Question – mosquito competition from invasive species