Ecology of LAC Encephalitis in Endemic Western NC - Marcelo Schwartz

a) Background
    i) No treatment
    ii) No vaccine
    iii) Wide range of symptoms
        (1) Many asymptomatic cases
        (2) Flu-like symptoms
        (3) Nausea, vomiting, lethargy
        (4) Severe long-term issues
    iv) Pediatric disease
        (1) Change of behavior
        (2) Learning disabilities
b) Transmission
    i) Amplifying host - small mammals
    ii) Vertical and ovarial transmission
    iii) Horizontal and venereal transmission
    iv) Focal
    v) Overwinters in mosquito eggs
c) Range
    i) Appalachian region
    ii) First identified in Wisconsin
    iii) In NC
        (1) Primarily in the west
        (2) Occasional cases in central NC
d) Why the increase in cases? Some hypotheses.
    i) Improved reporting
    ii) Population growth
    iii) Human disturbance
    iv) Invasive species
        (1) *Aedes albopictus*
        (2) *Ochlerotatus japonicus*
e) Research
    i) Silvatic vs disturbed areas
    ii) 6 sites - Forest to Field Ecotone
        (1) Forested area (Silvatic)
        (2) Edge
        (3) Abrupt change to open field (disturbed area)
    iii) Methods
        (1) 2 parallel transacts
        (2) 15 oviposition cups per transect
        (3) Had to use cinder blocks to protect oviposition cups from cows
    iv) Results
        (1) 2011
            (a) Low numbers of japonicus
            (b) Increased numbers of albopictus in field

(c) Decreased numbers of triseriatus in field
(2) 2012
(a) Similar results
(b) Collected more triseriatus overall
(3) Timing (2012)
(a) Albopictus late in season
(b) Triseriatus increased in middle of season
(c) Japonicus early in season

v) Introduced tires
(1) Albopictus found in field
(2) Japonicus and triseriatus are found in both areas

vi) Future study will be done from forest through rural to suburban to urban
(1) 36 sites
(2) Socioeconomic factors
(3) Vector abundance
(4) Groundhogs???