

Mosquitoes



Why Mosquito Control???

- Disease Potential
- Nuisance Problems



Integrated Pest Management

Outreach and Education

Surveillance

Source Reduction

Larvaciding

Adulticiding



Source Reduction



Larval Control with Pesticides



Biological Control



Mechanical Control



Adult Control with Pesticides



Outreach and Education

- Community Outreach Programs
- School Classes & Career Days
- Local News Interviews
- Press Releases



the city of
Hampton
virginia

NEWS RELEASE
For immediate release: Aug. 17, 2012
Contact: Tami Back | tback@hampton.gov | 757-727-6191
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No positive tests for West Nile in Hampton mosquitoes

With news of a recent outbreak of West Nile virus in Texas, there have been no positive tests for the virus in Hampton. Nevertheless, the City of Hampton is ramping up its mosquito control efforts with staff trapping and testing mosquitoes for West Nile virus daily.

"There has been a slight increase in the number of adult mosquitoes in the last week, but that number is still below normal for this time of year," said Chris DeHart, environmental services manager. "It has been slow since July due to minimal precipitation and lower than normal high tides."

City personnel continue to test roadside ditches, woodland pools and salt marshes with an environmentally safe larvicide. Additionally, the city has conducted 14 truck sprays this year and will do more as needed.

When and if the Air Force offers to conduct aerial spraying, the city will decide to participate based on the conditions at the time.

Residents are reminded to help reduce the mosquito population by dumping standing water around their homes and businesses. Common mosquito breeding areas include clogged gutters, empty flower pots, standing water on tarps or plastic covers, wading pools and used tires. Residents are reminded to change the water in bird baths each week.

Residents should use repellents when outdoors – ones with DEET are the most effective, but non-DEET containing repellents are available – and wear light, loose-fitting and long-sleeved clothing.

Residents can request an area to be sprayed for mosquitoes by calling 311 (727-8311 from a cell phone) or online at <http://hampton.gov/publicworks/mosquito/>.



Surveillance

BG Sentinel Trap
CDC Light Trap w/ CO2



Trap Types

CDC Light Trap w/ CO2

- Set in wooded area
- Catches most species

Gravid Trap

- Set in urban area
- Specializes in catching WNV carrying mosquitoes

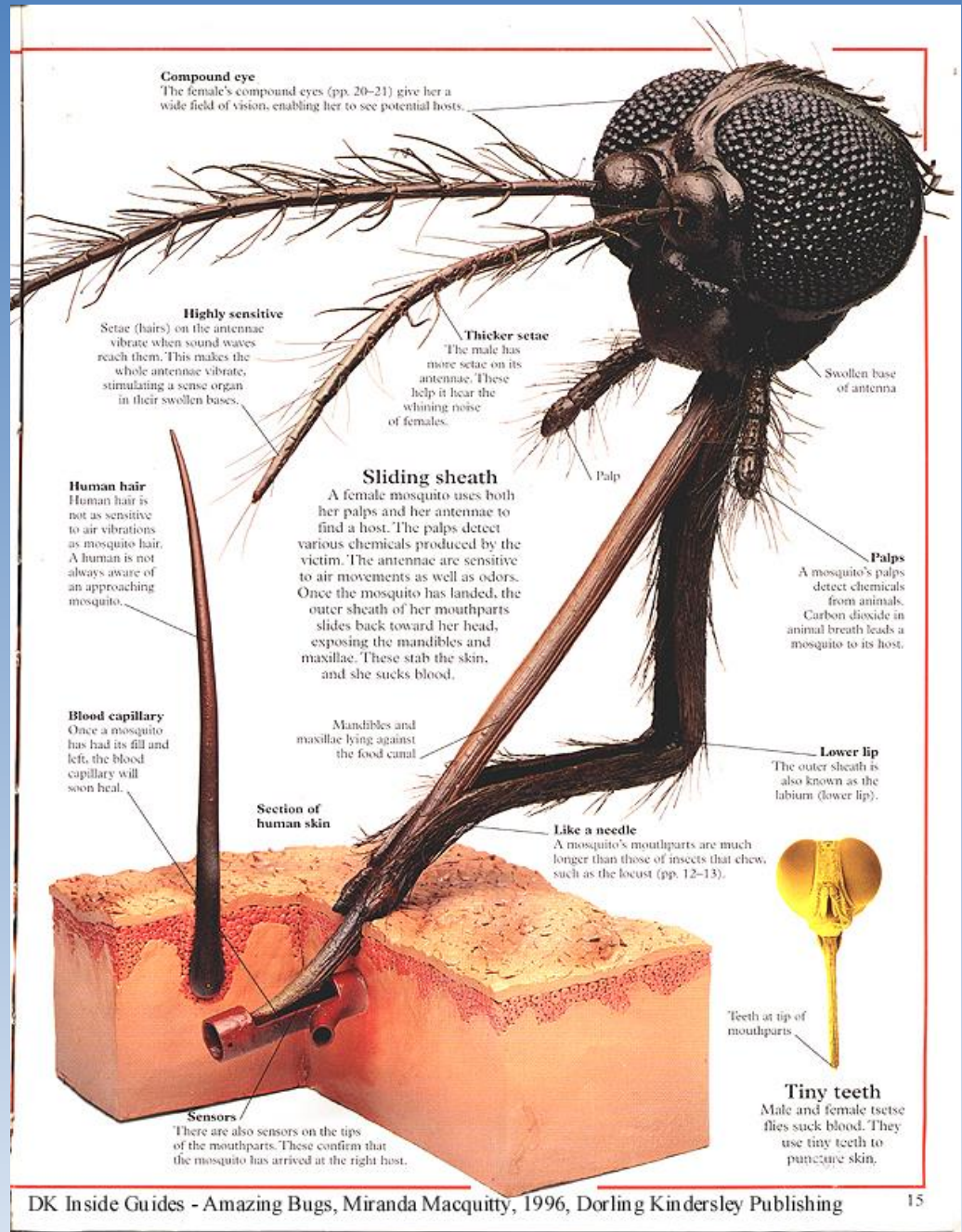
BG Sentinel Trap

- Set in urban or suburban areas
- Specializes in catching Asian Tiger or other peri-domestic mosquitoes

Surveillance



Basic Mosquito Biology



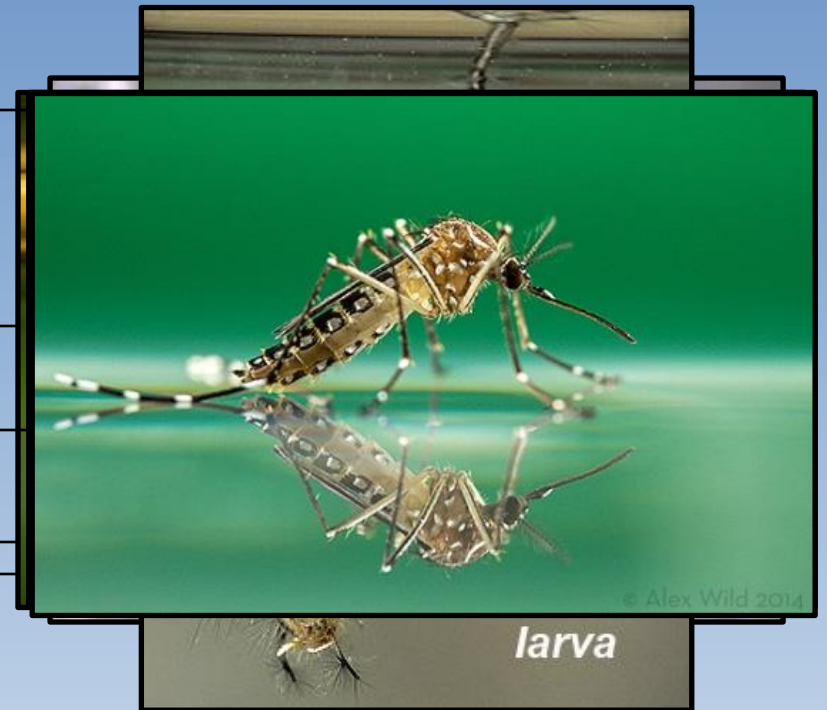
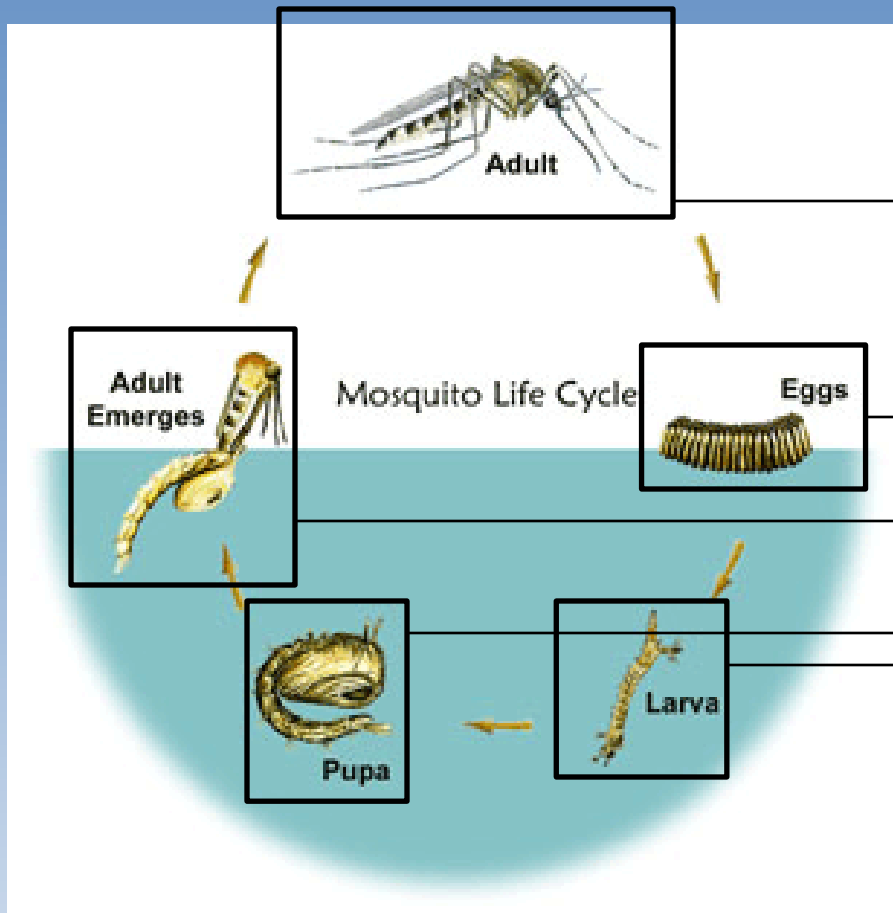
Mosquito Species

- How many species of mosquito are there world-wide?

- A. Over 1,500
- B. Over 100
- C. Over 3,000
- D. Over 15,000



Mosquito Life Cycle



Mosquito Life Cycle

Eggs - Larva - Pupa - Adult



Aedes



Anopheles



Culex

Mosquito Life Cycle

Eggs - Larva - Pupa - Adult



Aedes



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Mosquito Life Cycle

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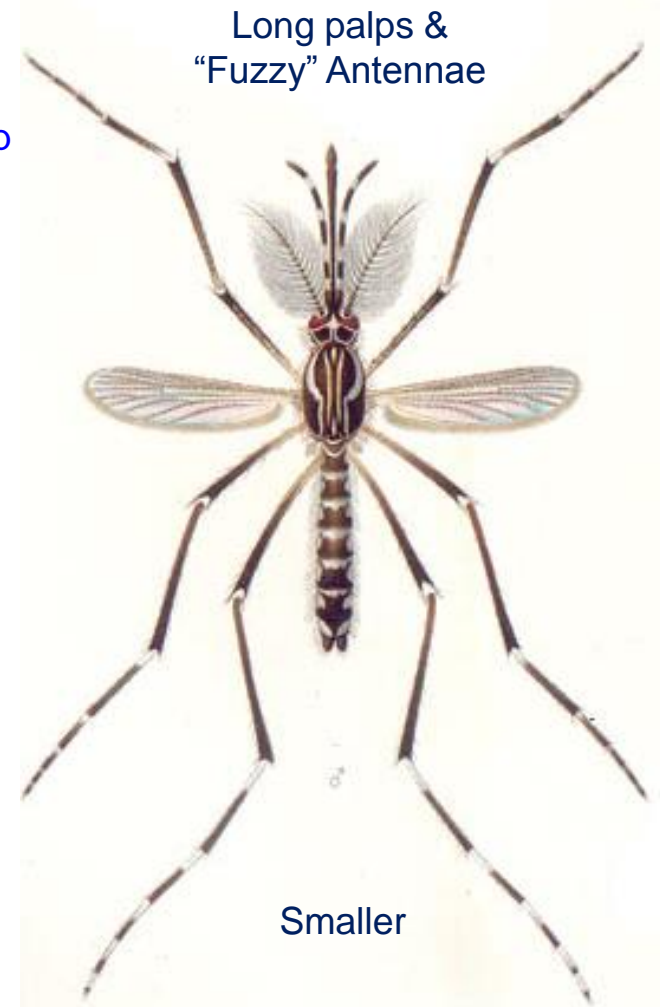
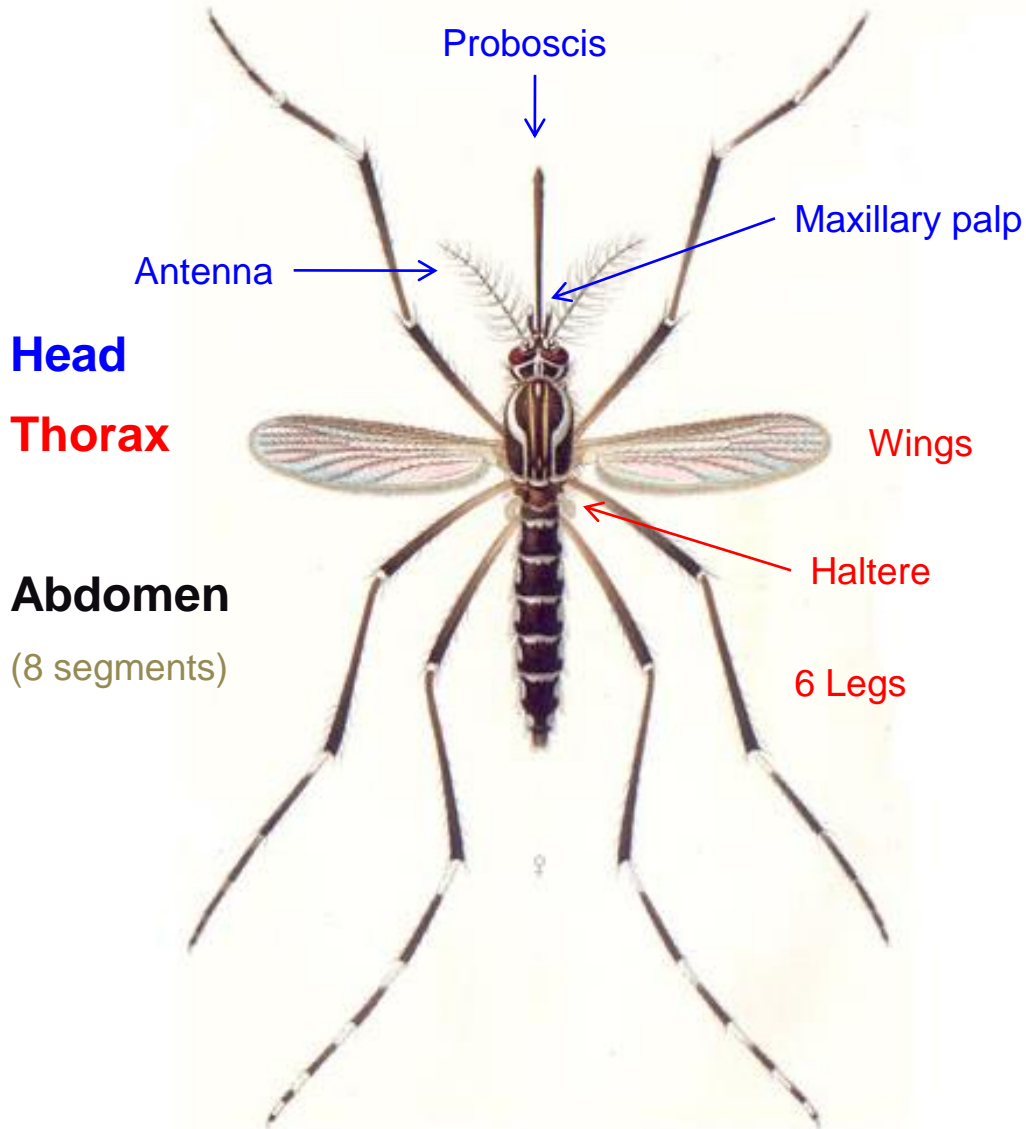


Anopheles



Culex

Morphological Features



Identifying Characteristics

Head – Palpi Length



Identifying Characteristics

Head – Banding



Identifying Characteristics

Thorax



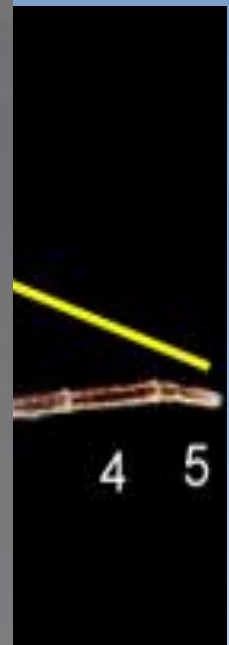
Identifying Characteristics

Thorax - Wings



Identifying Characteristics

Thorax - Legs

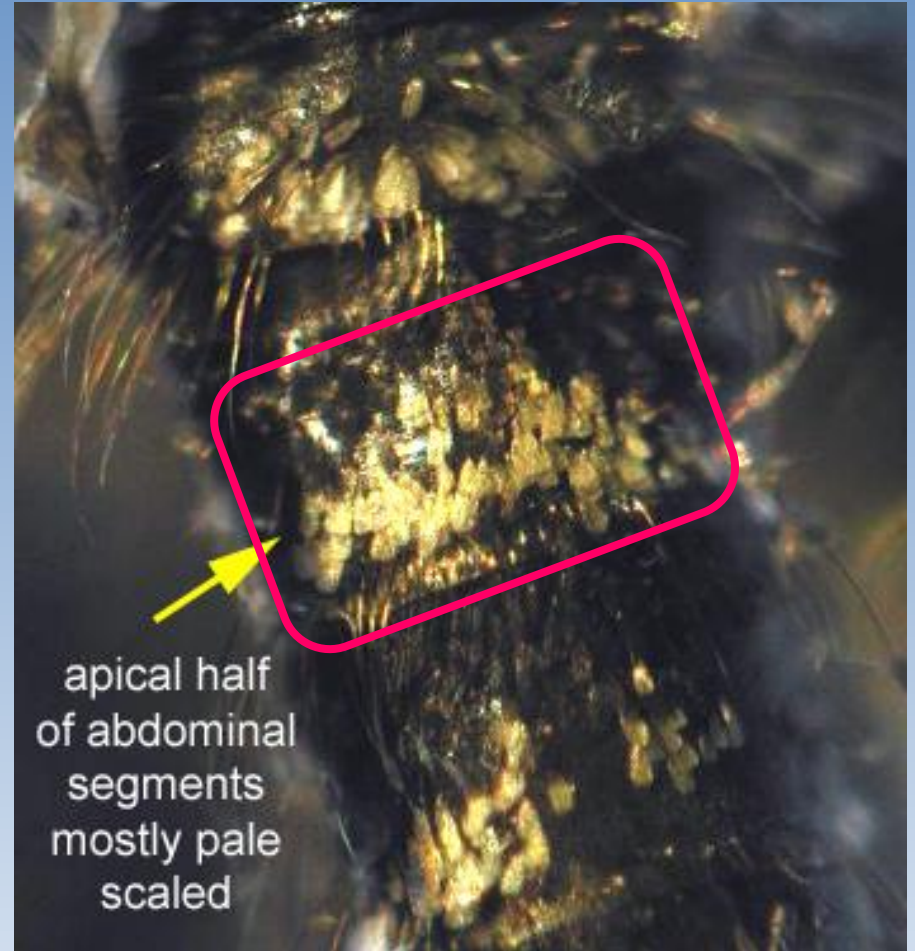
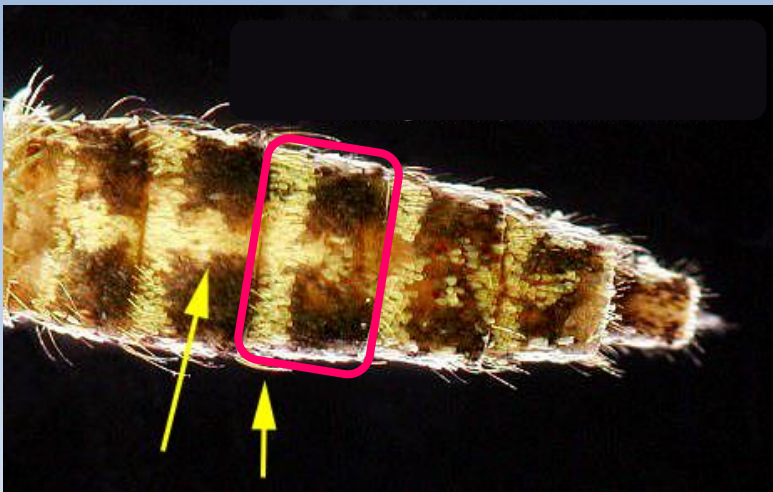
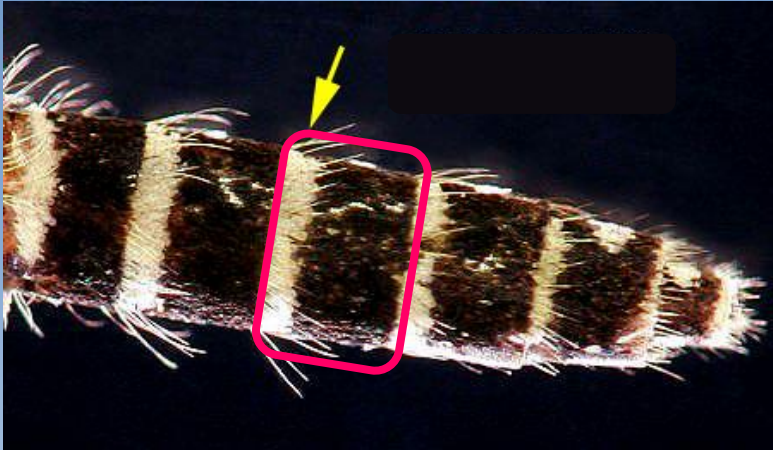


Basal – Below – Towards the Body

Apical – Above – Towards the Outside

Identifying Characteristics

Abdomen - Banding



Identifying Characteristics

Abdomen - Shape

- Anopheles
- Culex
- Culiseta
- Coquillitedia
- Orthopodomyia
- Uranitaenia
- Psorophora
- Aedes



Long “Phel”-ers



Rounded Letters

Equal

Rounded Abdomens



Pointed Abdomens

Mosquito Borne Diseases



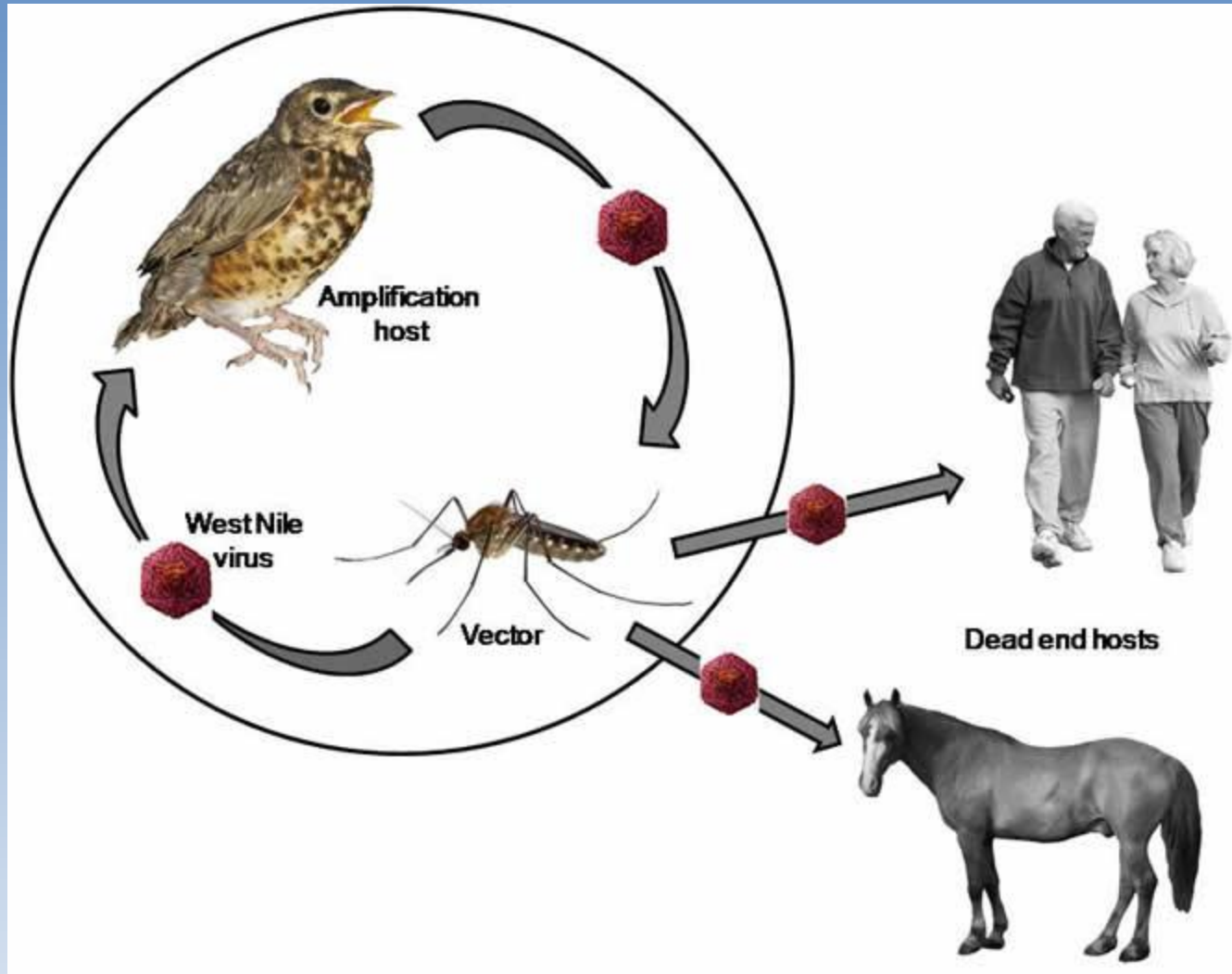
Threats Posed



- Nuisance Levels
- Disease Potential
 - West Nile Virus
 - Eastern Equine Encephalitis
 - Dog Heartworm
 - LaCrosse Encephalitis
 - St. Louis Encephalitis
 - Chikungunya
 - Malaria
 - Dengue Fever
 - Yellow Fever

ZIKA!!!

Transmission Cycle



West Nile Virus

- 70-80% people non-symptomatic
- 20-30% people have fever, mild flu
- Less than 1% have severe symptoms

- Can affect Horses if not vaccinated
- Symptoms: stumbling, impaired coordination, weak limbs
extremely high fever with quick onset.



Eastern Equine Encephalitis

- Mainly affects Horses
- Horse Vaccines are readily available
- Symptoms: stumbling, impaired coordination, weak limbs,
no fever.

- If humans are infected, 33% chance of having encephalitis

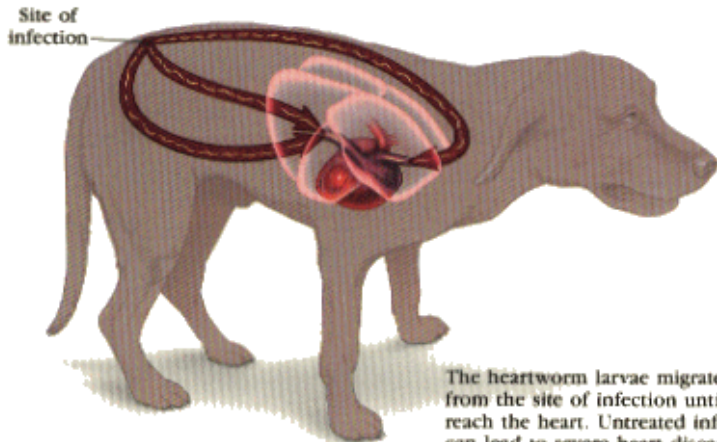


Dog Heartworm

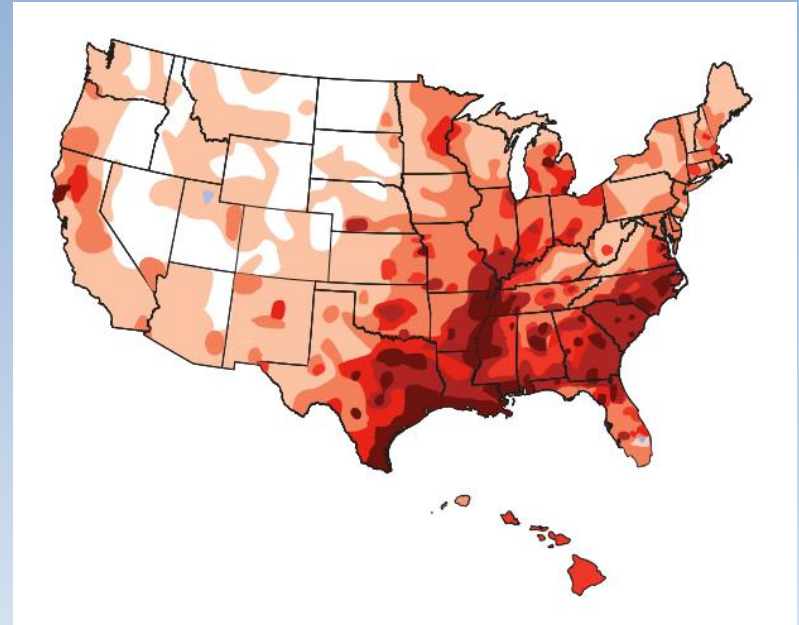
- Endemic in the area
- Medication readily available to prevent heartworm
- Can infect Felines with no treatment available



Development of Heartworm Disease

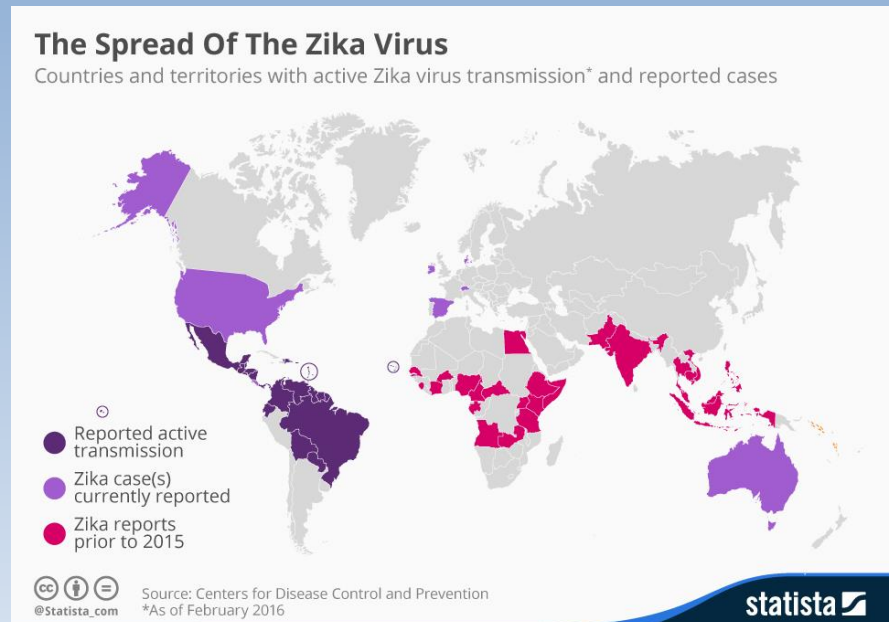
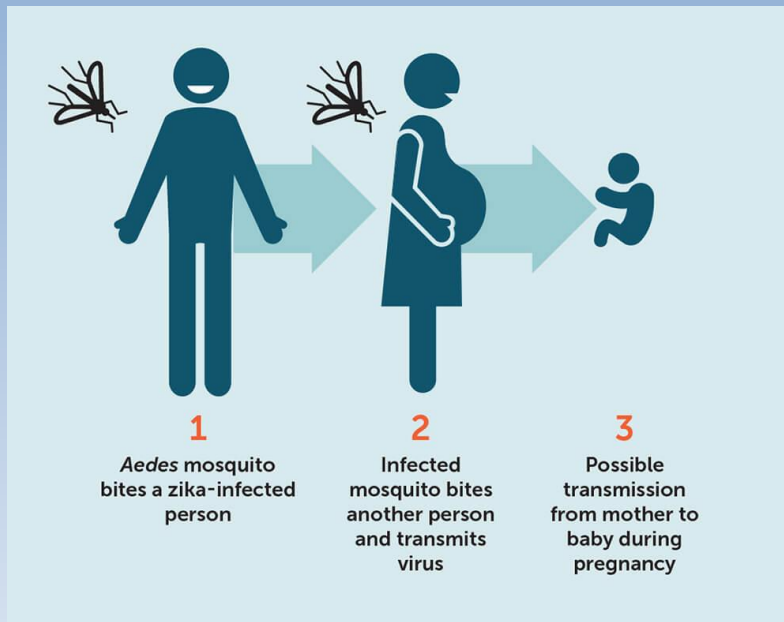
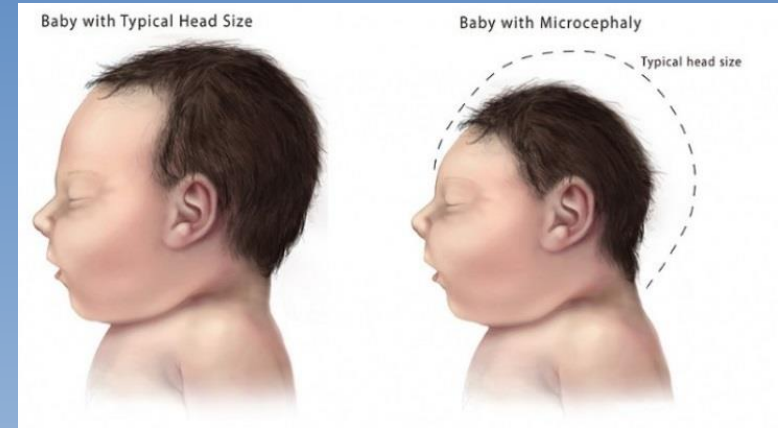


The heartworm larvae migrate from the site of infection until they reach the heart. Untreated infection can lead to severe heart disease.



ZIKA Virus

- Human to Human transmission cycle
- Primary vector habitat in close proximity
- Virus on-set vs. Transmission cycle
- Other modes of transmission



Questions???

