



# Mosquito Prevention: What You Need to Know

Montgomery County Health Alliance

May 24, 2016



# Topics:

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- ▶ **Environmental Field Services**
  - ▶ Surveillance
  - ▶ Control
- ▶ **Mosquito Education and Prevention**
- ▶ **Current Status of Zika Virus Disease**



# Environmental Surveillance and Control

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- ▶ Environmental Health
- ▶ Health Department's Mosquito Program
  - ▶ Respond to Complaints
  - ▶ Larvacide
  - ▶ Trapping/Surveillance
  - ▶ Adulticide

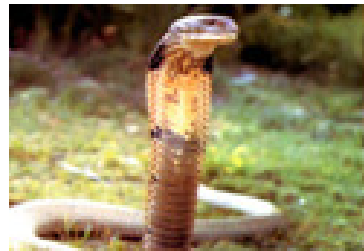


# Ten Deadliest Animals

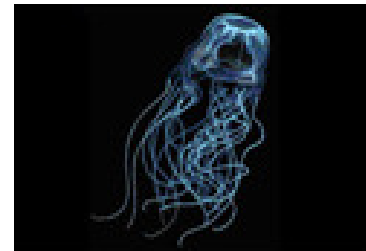
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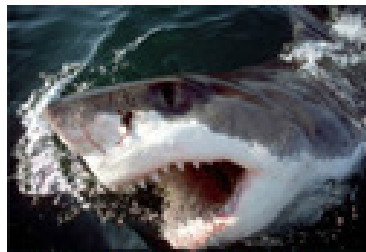
Mosquito



Asian Cobra



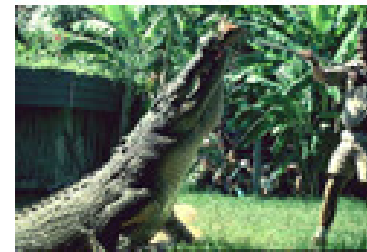
Australian Box Jellyfish



Great White Shark



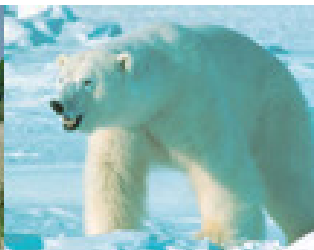
African Lion



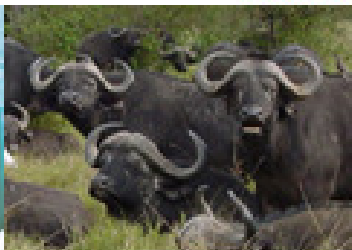
Australian Saltwater Crocodile



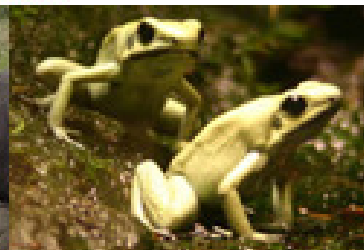
Elephant



Polar Bear



Cape Buffalo



Poison Dart Frog



# Mosquito Borne Diseases

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Malaria



West Nile Virus



Dengue Fever



Yellow Fever



Eastern Equine Encephalitis (EEE)



St. Louis Encephalitis



Lacrosse Encephalitis



Chikungunya



Zika



# What is Zika Virus?

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Emerging arbovirus (Western Hemisphere)



Primarily spread to humans through the bites of infected mosquitoes.



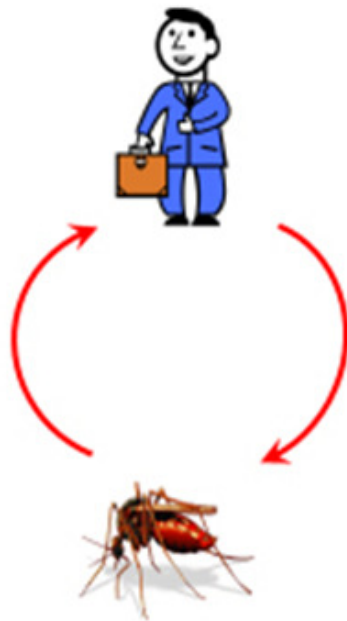
Mosquitoes Aedes genus (*Aedes aegypti* and *Aedes albopictus*)





## In the United States, people serve as primary vertebrate hosts

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### Viruses

- Chikungunya
- Dengue
- Yellow fever
- Zika


### Vectors

- *Aedes aegypti*
- \**Aedes albopictus*


\* Unproven vector of Yellow fever virus





 *Aedes aegypti*



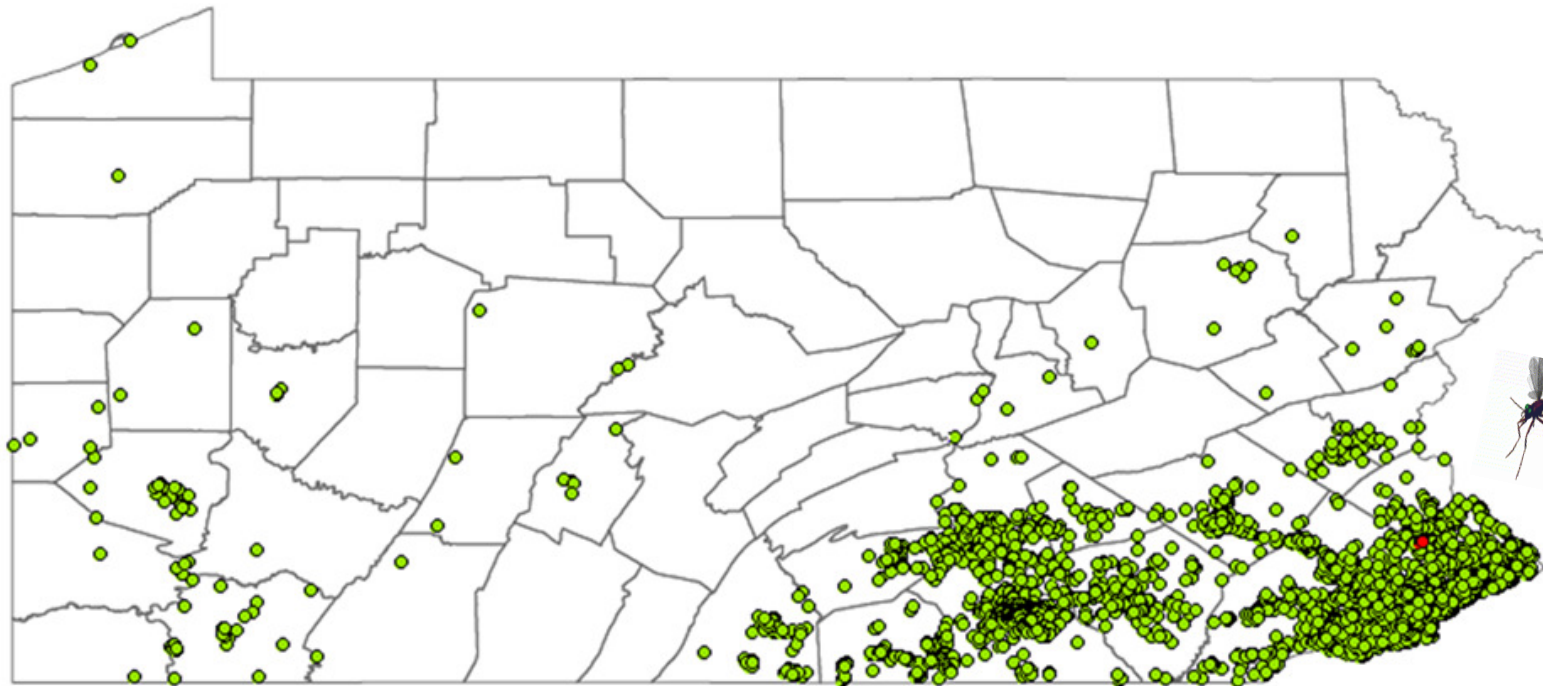
 *Aedes albopictus*



AKA: Asian Tiger Mosquito



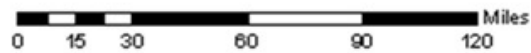
Pennsylvania West Nile Virus Control Program  
*Aedes aegypti* and *Aedes albopictus* Collections  
2001 through 2015



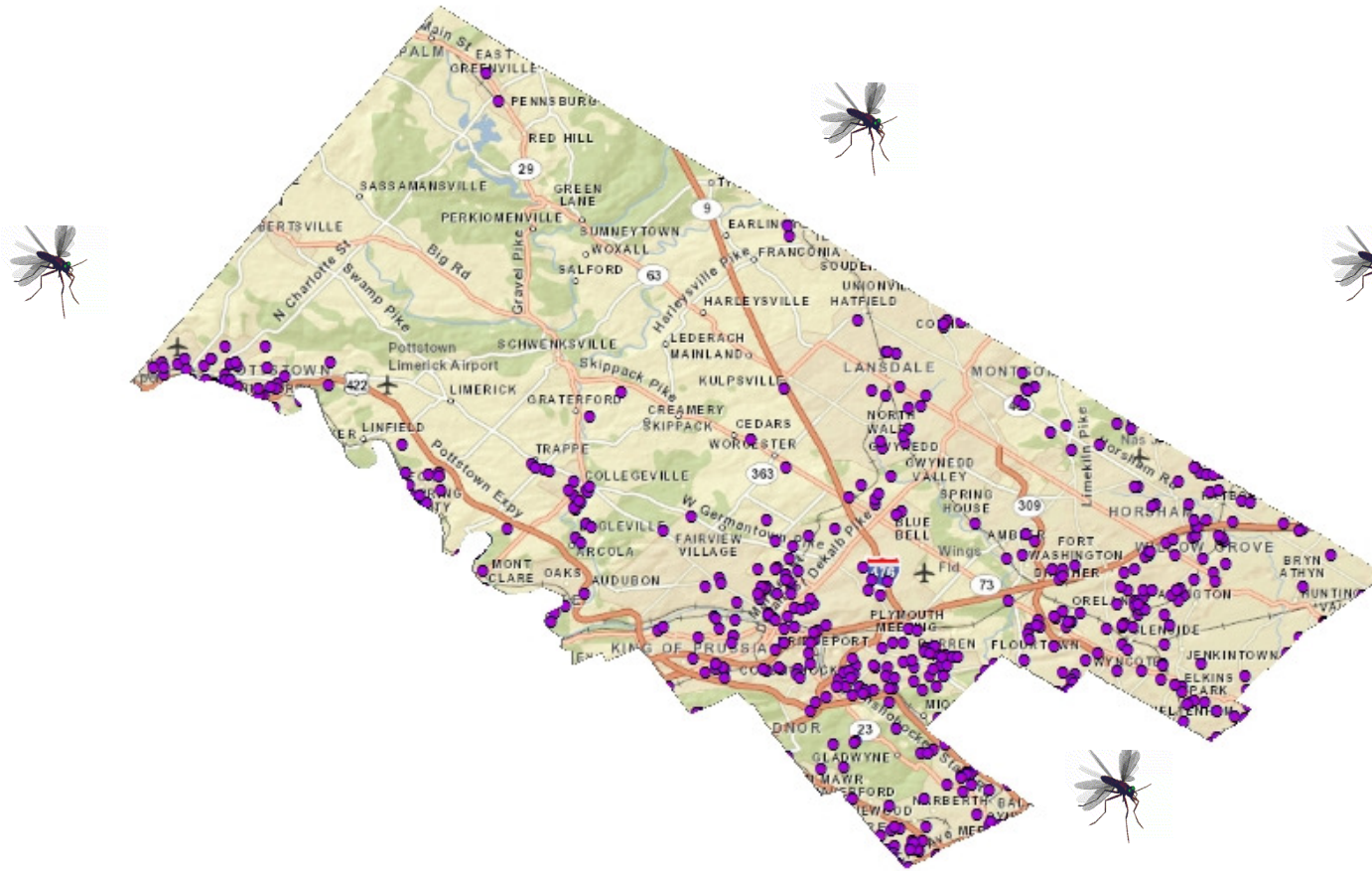
**Legend**

- *Aedes aegypti* \*\*
- *Aedes albopictus*

\*\* *Aedes aegypti* identified at 2 sites in 2002

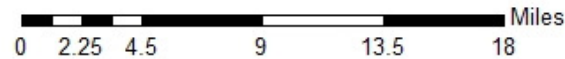


## Pennsylvania West Nile Virus Control Program *Aedes albopictus* Collections: 2001 through 2015



**Legend**

- *Aedes albopictus* Collection Site



# How do we know which mosquitoes inhabit Montgomery County?


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# Aedes albopictus

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 Introduced species, Houston, TX 1985

 Considered one of the most troublesome mosquito species in the world because of their pest activity and disease potential.

 Capable of transmitting over 15 viruses.



# Aedes albopictus

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 Prefer to feed on large mammals, including humans.  
Will generalize, if necessary.

 Persistent and aggressive day-biters.

 Prefer to bite on the lower body.

 Will enter indoor spaces to get blood meals.



# Albopictus Breeding Habitats

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# Are there cases of Zika Virus in MontCo?

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## NEWS

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**FOR IMMEDIATE RELEASE: March 8, 2016**

### Montco Reports First Zika Virus Case

**Norristown, PA (March 8, 2016)** – The Montgomery County Health Department (MCHD) today announced confirmation of the first case of Zika virus in the county. A 55-year-old woman tested positive for the virus, following travel outside of the United States to an area where Zika virus has been found. There are now six confirmed cases of Zika virus in Pennsylvania, according to the state Department of Health.


“The Zika virus is generally a mild virus that lasts less than a week,” said Montgomery County Commissioner Val Arkoosh, who is also a physician and is Interim Medical Director of the Montgomery County Health Department. “The CDC, the state health department, and our county health department are fully prepared for cases of Zika virus, which is important to note, cannot be



# The Bigger Question is...

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 Will we have locally acquired cases?

 Answer: It is a possibility.

THE  
**B?G**  
QUESTION

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# Current Case Counts (5/23/16)

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## ▶ United States

- ▶ Travel Associated: 544 (10 sexually transmitted, 1 GBS)
- ▶ Locally Acquired: 0

## ▶ Pennsylvania

- ▶ Confirmed Cases: 19
- ▶ Pending Test Results: 136

## ▶ Montgomery County

- ▶ Confirmed Cases: 2
- ▶ Persons Investigated/Tested: 89
  - Of the 89 submitted for testing → 2 positive, 62 negative, 24 pending
  - Plus 1 confirmed “Out of Jurisdiction”



# Zika Virus Overview

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- ▶ Viral infection
  - ▶ Fever, rash, redness in/around the eyes, joint pain
  - ▶ Illness is usually mild
- ▶ Disease Transmission
  - ▶ Transmitted primarily by bite of infected *Aedes* species mosquitoes
  - ▶ Human to human transmission:
    - sexually
    - via blood transfusion
    - maternal-fetal transmission
- ▶ Reemerging Disease
  - ▶ First isolated during 1947
  - ▶ January 2016 – multiple countries affected including the Americas



# Areas of Concern

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- ▶ Established link between Zika and adverse pregnancy and birth outcomes
  - ▶ Registry is set up to track pregnant women with Zika infection
- ▶ Reports of GBS have been observed to increase
  - ▶ Observed in Brazil where the highest number of Zika cases have occurred

Further investigation is needed to establish true relationship



# Our Role - Public Health Action

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- ▶ **Communication Plan**
  - ▶ Healthcare Providers
  - ▶ Community
  - ▶ Webpage - [www.montcopa.org/zika](http://www.montcopa.org/zika)
  - ▶ Social Media
- ▶ **Communicable Disease Surveillance**
- ▶ **Environmental Surveillance and Control**

