



# African Horse Sickness Vector Surveillance in Thailand

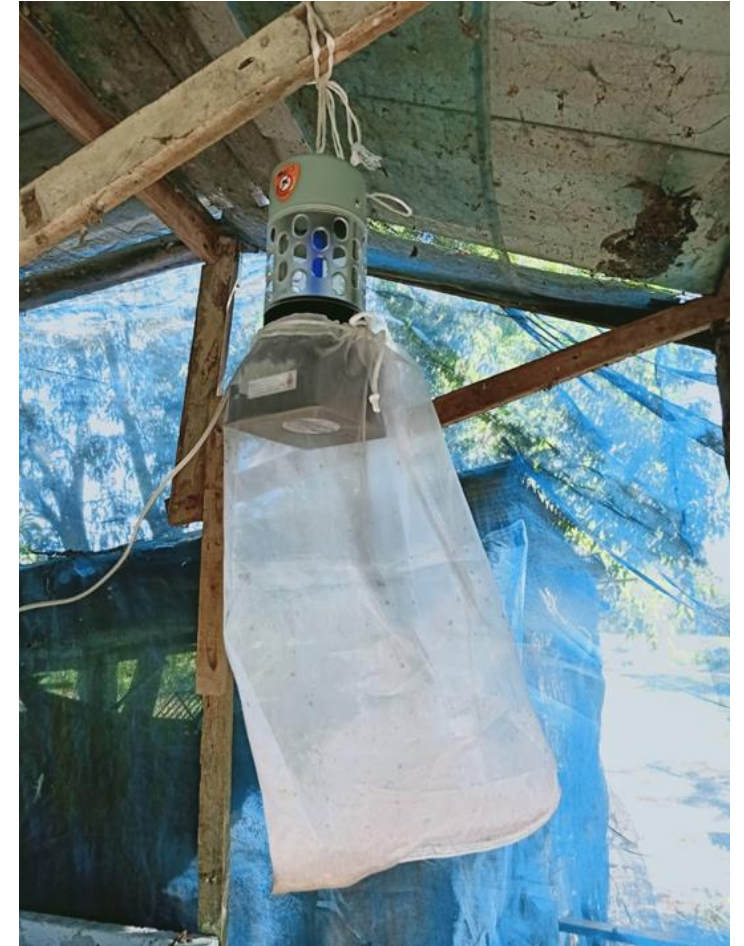


Rungrat Saiyasombat  
National Institute of Animal Health, Thailand

# Surveillance methods of *Culicoides*

## Collection of adult *Culicoides*

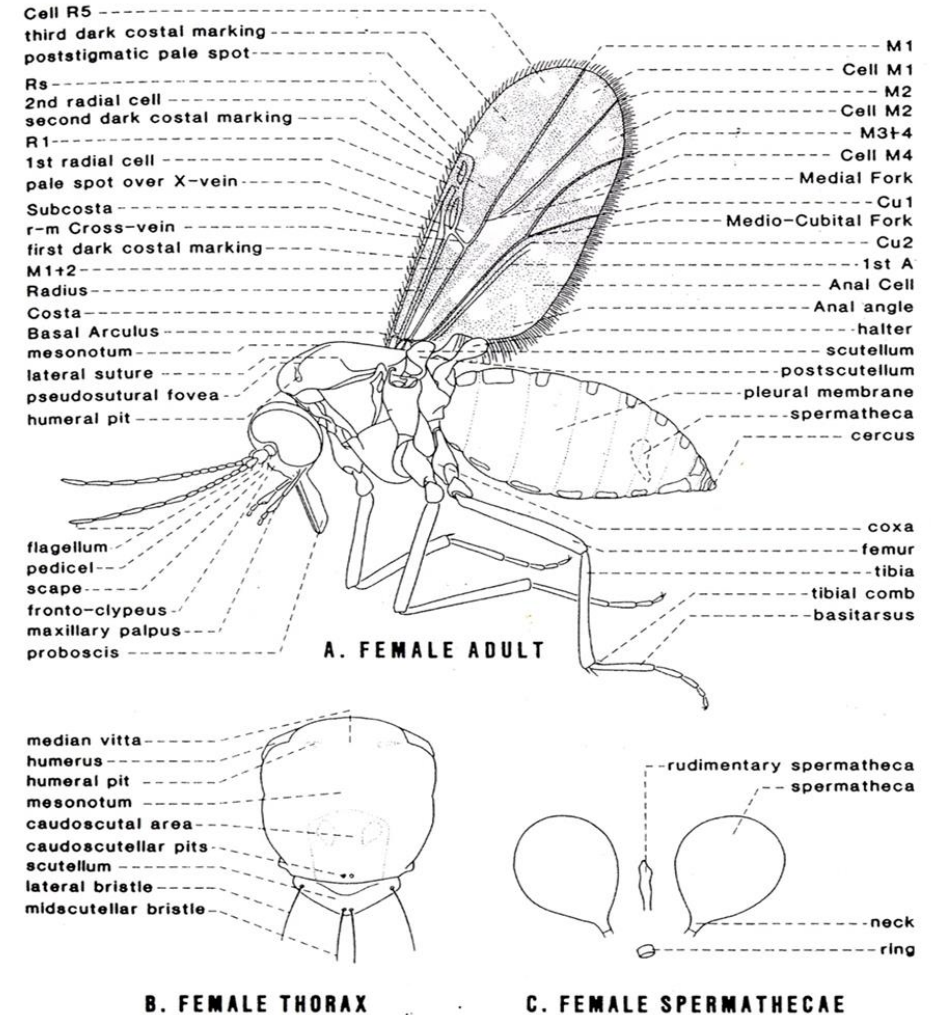
- Using UV-light trap
- 3-5 traps per site
  - 1-2 traps in horse stables closed to horses
  - Other traps were placed outside horse stable around natural environment
- Setting up traps before sunset and collect after sunrise
- Transferring insect samples to the labs on ice and kept in -80°C until *Culicoides* identification, AHSV examination and bloodmeal host analysis



# Surveillance methods of *Culicoides*

## Identification of *Culicoides* species

- Examine wing patterns under a stereo microscope
- Confirm by dissecting and mounting on slide to identification under a light microscope

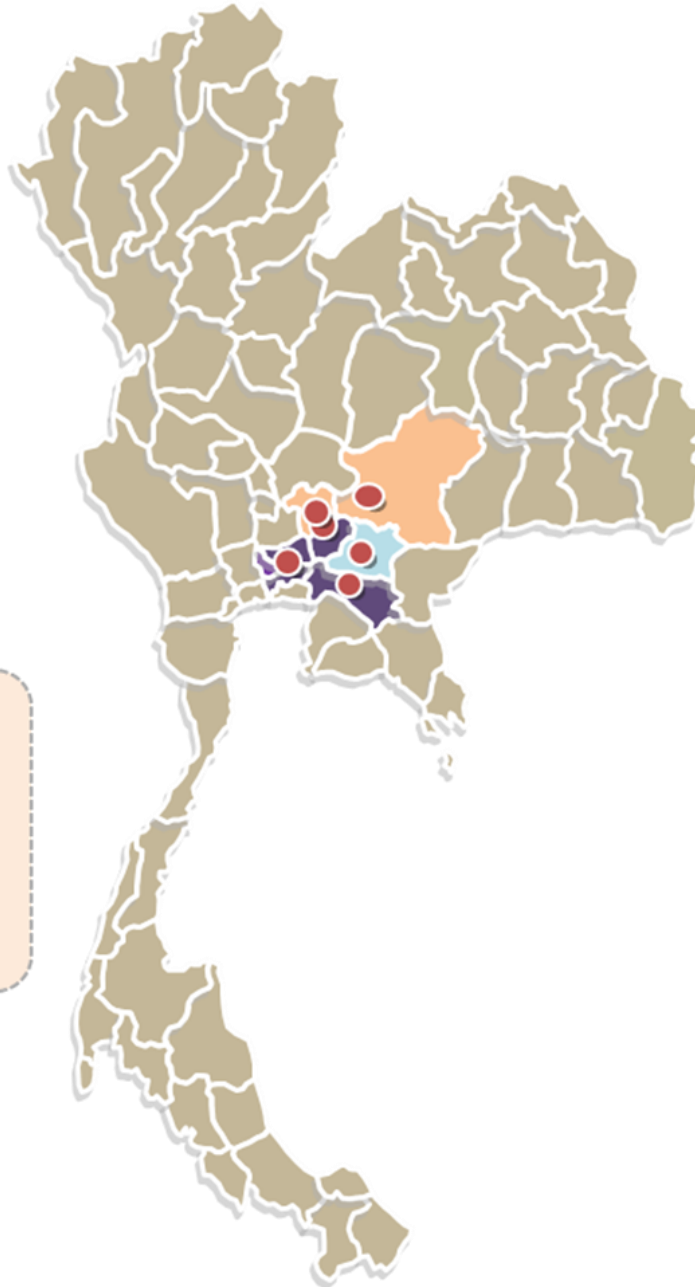


### Zebra

- Chachoengsao
- Prachinburi

### Horse 1<sup>st</sup> group

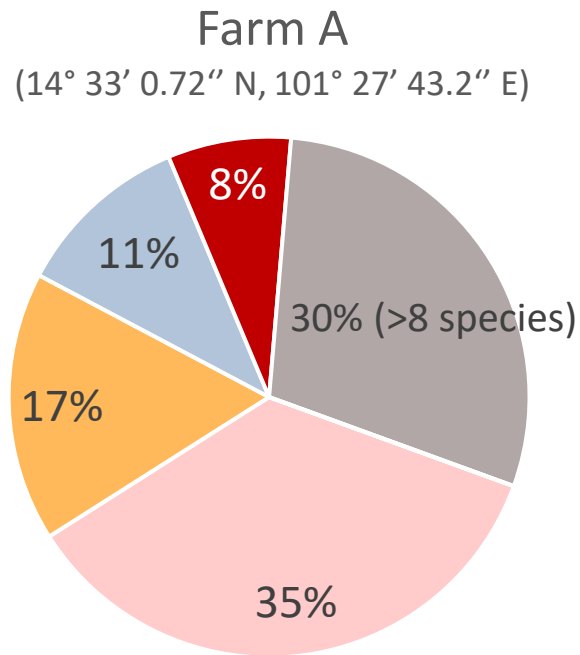
- Nakhon Ratchasima
- Saraburi



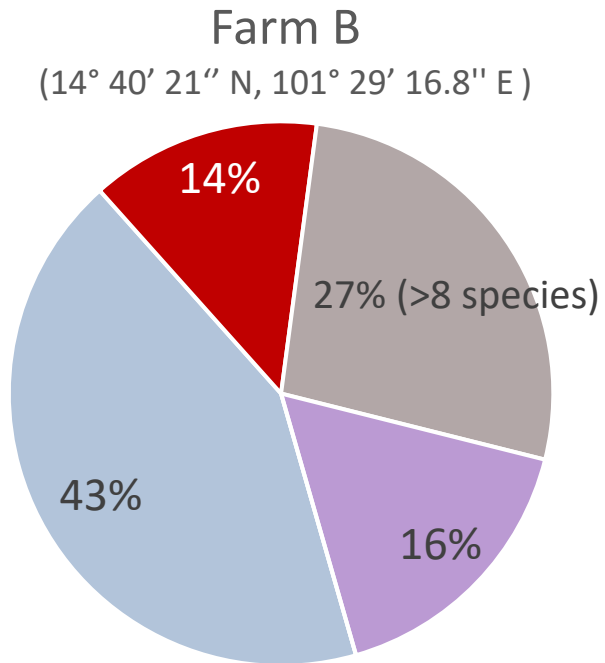
### Horse 2<sup>nd</sup> group

- Chachoengsao
- Pathum Thani
- Bangkok
- Nonthaburi
- Nakhon Nayok\*
- Nakhon Ratchasima\*

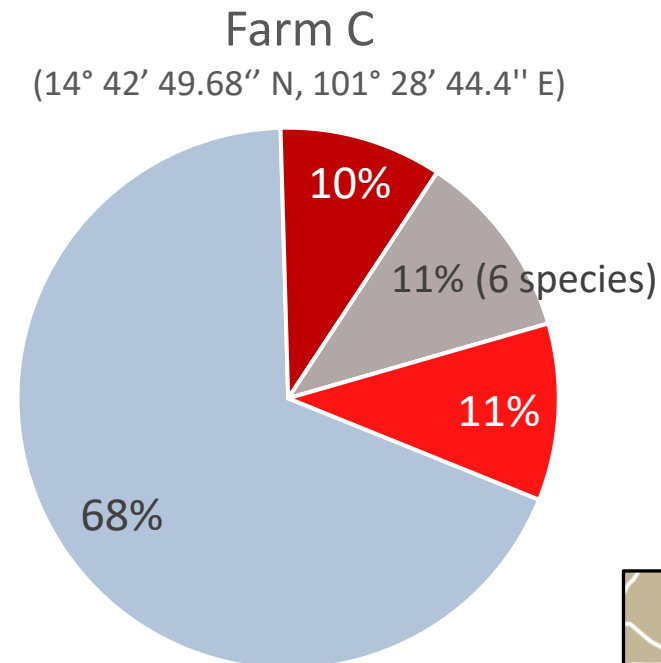
# *Culicoides* species in horse farms, Pak Chong, Nakhon Ratchasima on July 2020



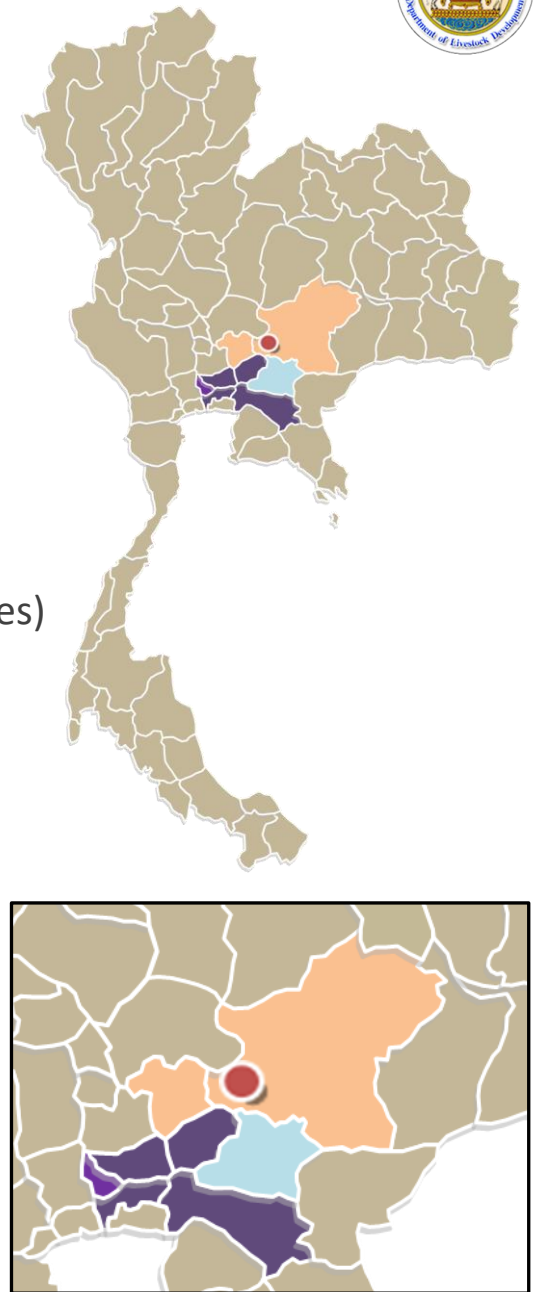
■ Subgenus Avaritia  
■ imicola  
■ huffi



■ Subgenus Trithecoides  
■ other species

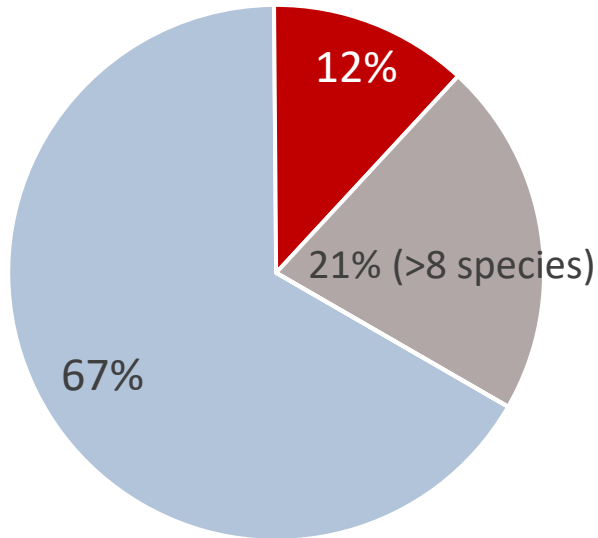


■ oxystoma  
■ actoni

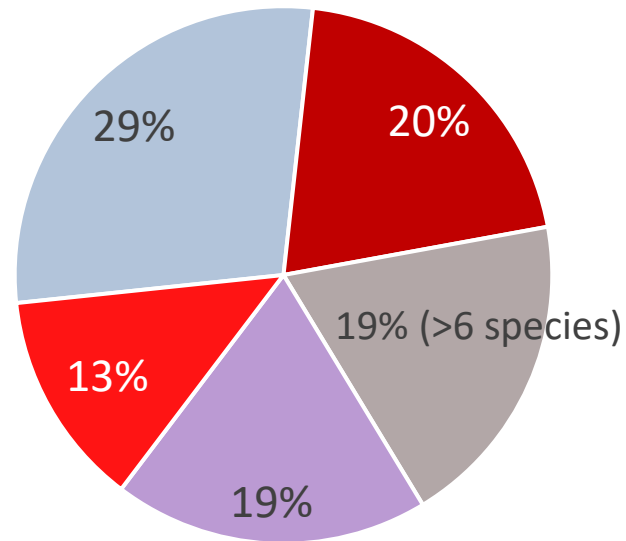


# *Culicoides* species in horse farms, Muak Lek, Saraburi on August 2020

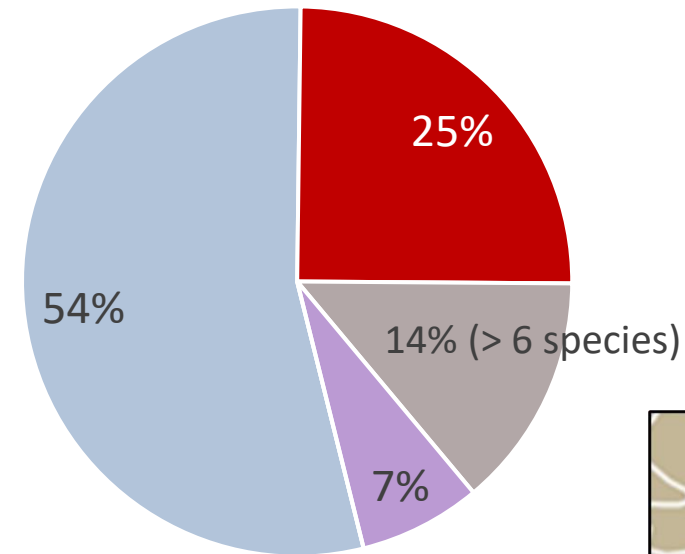
Farm D  
(14° 37' 48.432" N, 101° 11' 43.332" E )



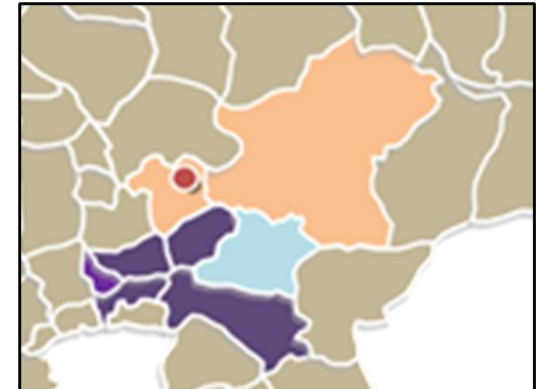
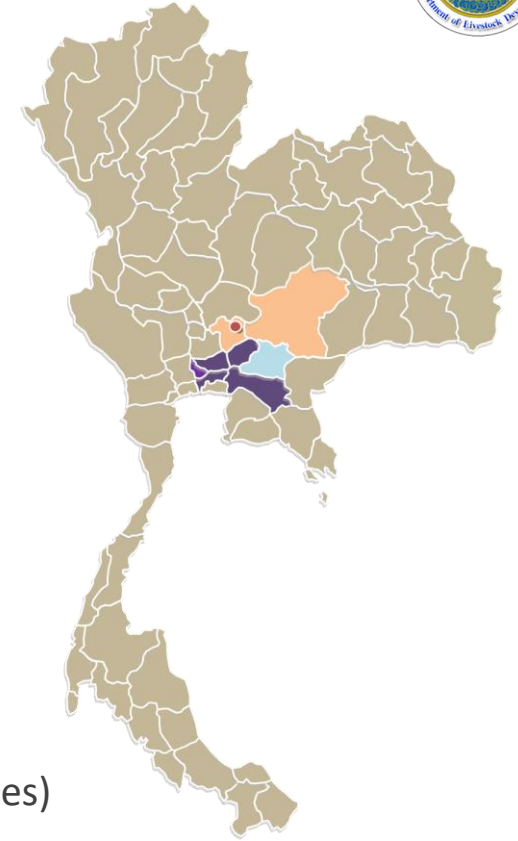
Farm E  
(14° 36' 15.48" N, 101° 10' 55.92" E)



Farm F  
(14° 49' 17.256" N, 101° 15' 51.84" E)



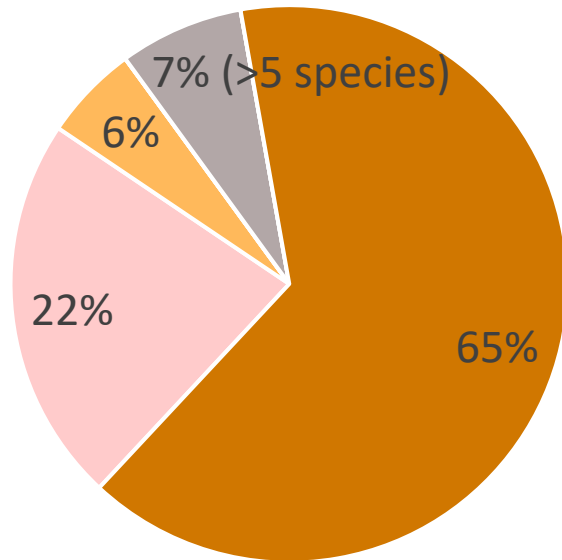
■ oxystoma ■ imicola ■ other species ■ actoni ■ huffi



# *Culicoides* species in horse farms, Kaeng Khoi, Saraburi on August 2020

Farm G

(14° 24' 57.3768" N, 101° 6' 50.184" E)

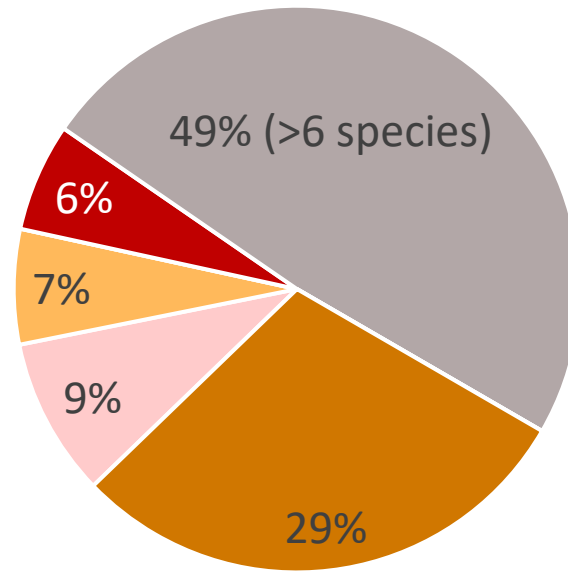


Subgenus Avaritia

imicola

Farm H

(14° 28' 45.0012" N, 101° 5' 34.656" E)

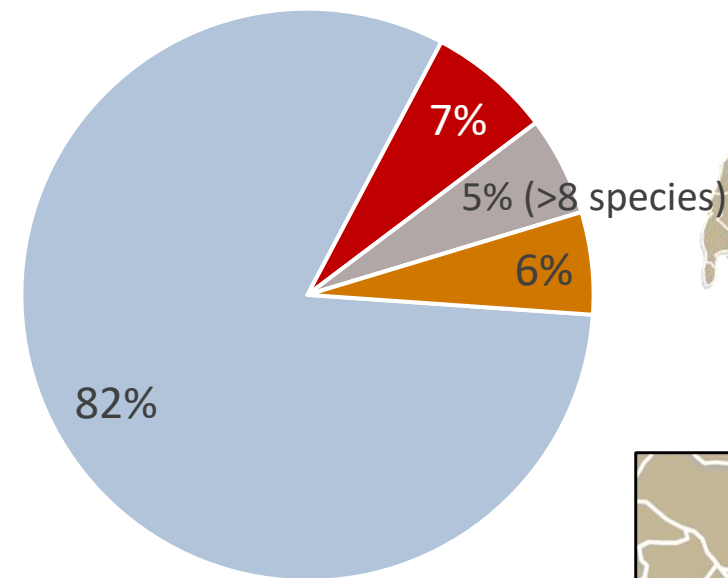


Subgenus Trithecoides

other species

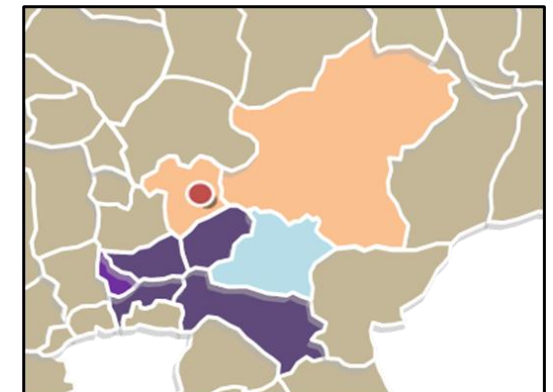
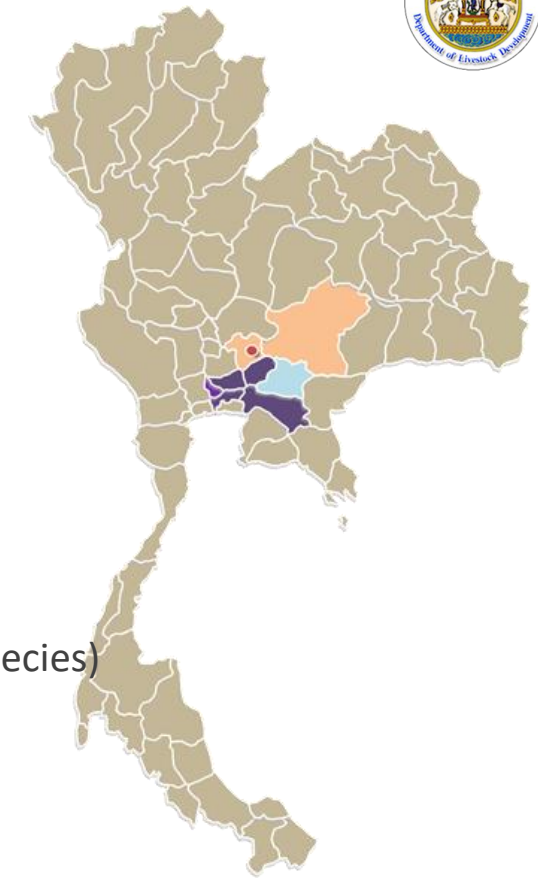
Farm I

(14° 36' 10.9836" N, 101° 5' 39.804" E)



oxystoma

innnoxius

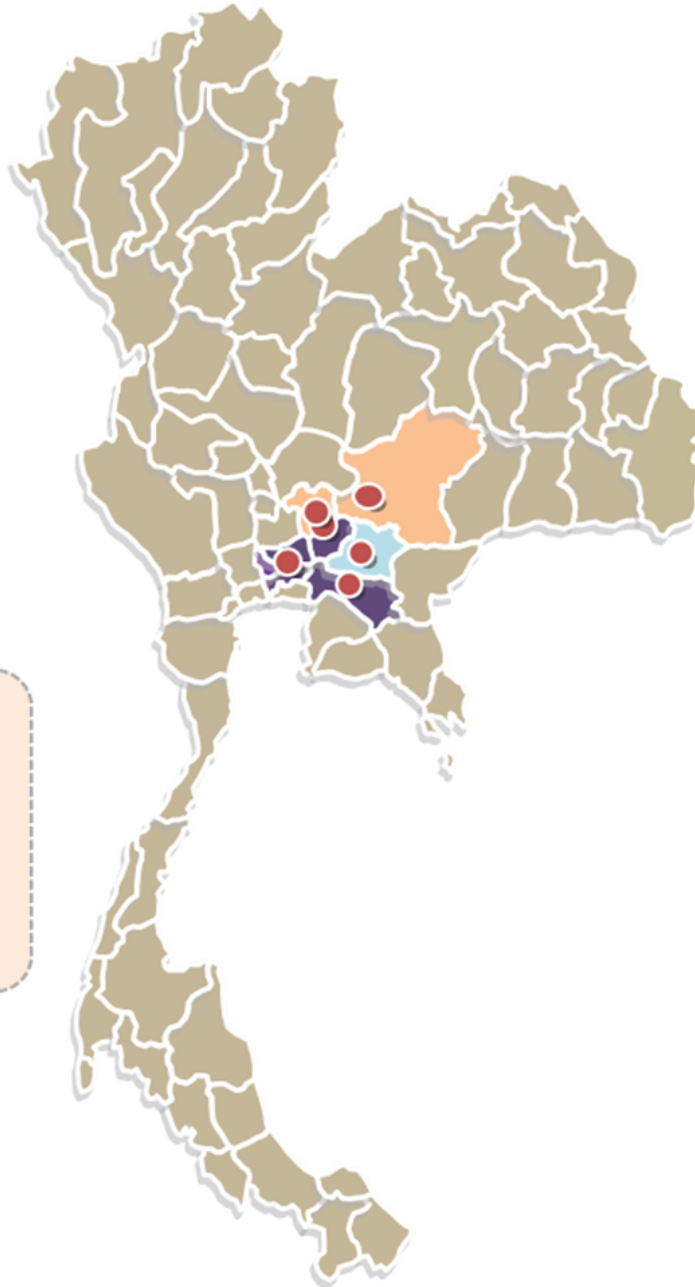


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- Nonthaburi
- Nakhon Nayok\*
- Nakhon Ratchasima\*

# AHSV detection in *Culicoides* midges

- *Culicoides* samples from 1-2 traps that closed to horses
- Pools of up to 25 *Culicoides* (De Waal et al., 2016)
- AHSV RNA detection by Real-time RT-PCR (Guthrie et al., 2013)
- 20-30 pools from 3 farms were tested negative





# Conclusions

- *C. oxystoma* was the most abundance species in several farms in Nakhon Ratchasima and Saraburi provinces.
- *C. imicola* was observed in every farms but less abundance.
- *C. innoxius* and *Culicoides* in Subgenus *Avaritia* found the most abundance in each individuals farm suggested that these species may play a role in disease transmission.
- The data was from only one time collection. Further studies needed.
- Future surveillance for geographically and seasonally information.

National Institute of Animal Health, Department of Livestock Development, Thailand

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Thank you