

# ARBOVIRAL VECTORS AT ZONOTIC INTERFACES IN TWO BORDER PROVINCES: CHANTHABURI AND CHIANG RAI, THAILAND

R. Brown\*<sup>1</sup>, T. Phanitchat<sup>2</sup>, H. J. Overgaard<sup>1,3</sup>

<sup>1</sup>REALTEK, Norwegian University of Life Sciences, As, Norway. <sup>2</sup>Medical Entomology, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

<sup>3</sup>Department of Microbiology and Tropical Disease Research Center, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand

\*Corresponding author: [rebecca.emma.brown@nmbu.no](mailto:rebecca.emma.brown@nmbu.no)



## INTRODUCTION

Arboviral epidemics are an increasing global threat due to:

- Climate change** - higher temperatures increase mosquito populations & widen their distribution
- Urbanisation** - land use change and human encroachment on wildlife habitats
- International travel & trade** - facilitates rapid spread of pathogens

With 30% of all emerging zoonoses being vector-borne, there is a need to identify high risk areas of transmission and address:

- Q1) What the mosquito abundance, species composition and diversity is at zoonotic interfaces?  
 Q2) What important arboviral vectors are present?  
 Q3) Where are high rates of Flaviviridae detected?

## APPROACH

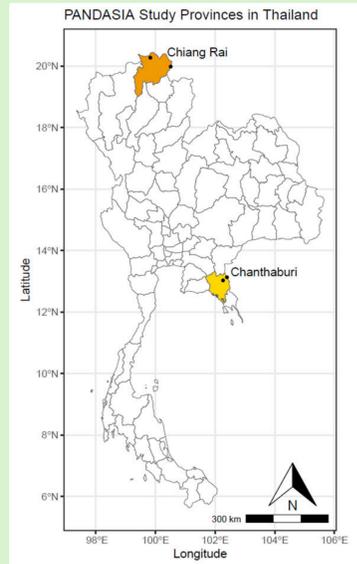
**Study sites** - Districts in the border provinces of Chanthaburi (Pong Nam Ron and Soi Dao) and Chiang Rai (Mae Fah Luang and Wiang Kaen).

**Key features** - High biodiversity, cross-border mobility and status as emerging infectious disease hotspots.

**Interfaces selected** - Houses, temples, dumpsites, orchards, forest edges, forest interior and bat caves ie. places people use in their daily activities where they may encounter zoonotic viral pathogens.

**Sampling design** - Dry and wet seasons of 2024 (2-3 replicates of each interface for 2 nights in Pong Nam Ron/ Soi Dao combined (Chanthaburi), Mae Fah Luang (Chiang Rai) and Wiang Kaen (Chiang Rai).

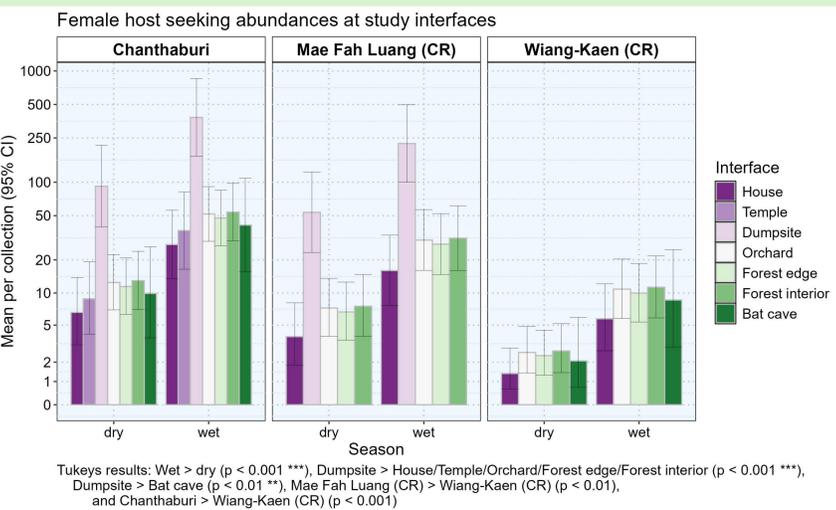
**Trapping methods** - Light traps + CO<sub>2</sub>, Biogents PRO Traps + BG lure + CO<sub>2</sub>, Prokopack aspiration and Gravid Aedes Traps.



## STUDY INTERFACES



## ABUNDANCE, SPECIES AND DIVERSITY



## ARBOVIRAL VECTORS AND FLAVIVIRIDAE

