

# Modern Vector Control: Genetically Modified Mosquitoes



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## Abstract

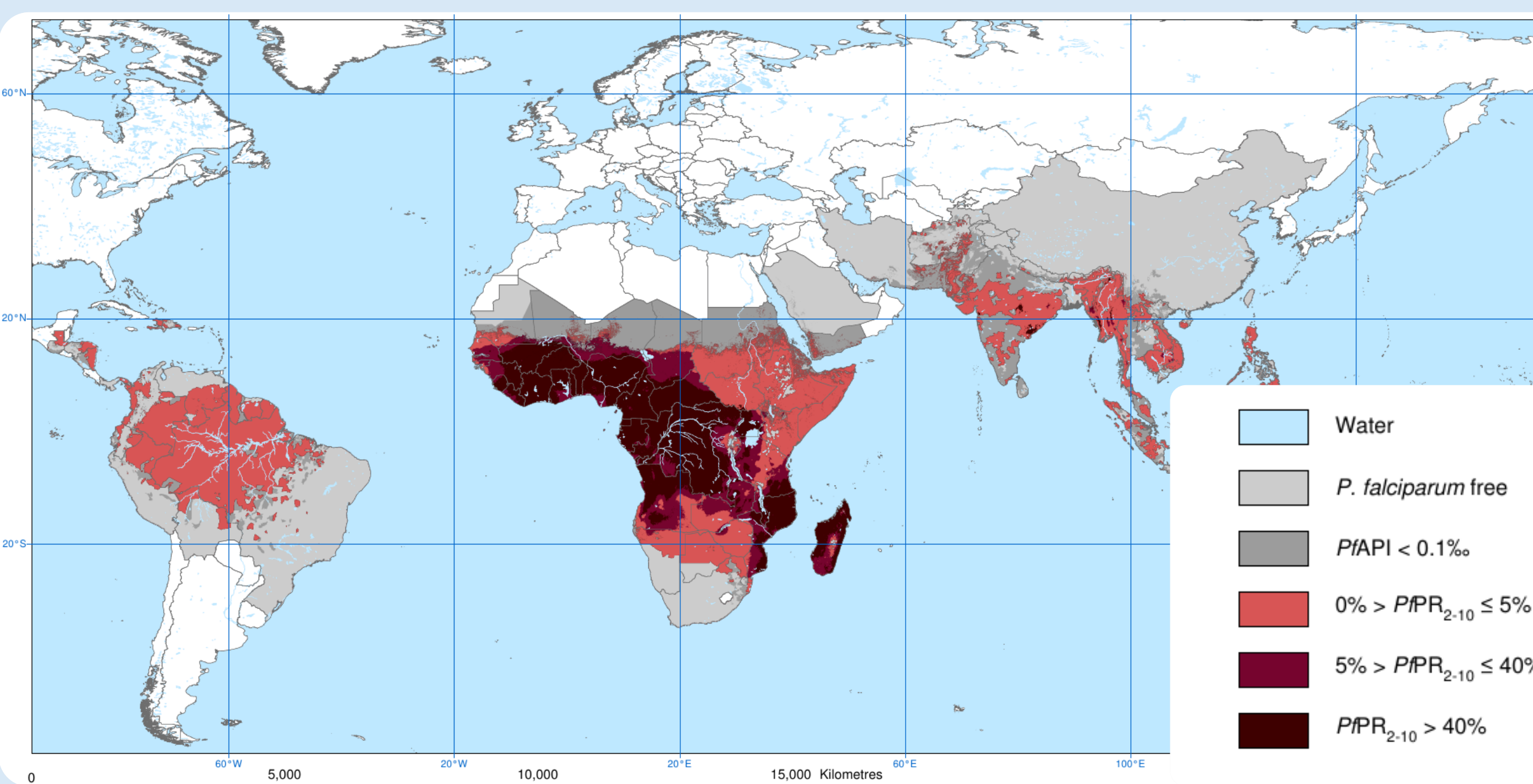
The RIDL technique was used to decrease the population of *A. gambiae* s.s. and thereby reduce malaria incidence. Experiments were conducted in laboratory cages and in a two-year field study in Kou Village 4 (KV4) of Kou Valley, Burkina Faso. Our initial tests were successful, leading to the field study in which there was a decrease in the population of *A. gambiae* over the testing period.

## Background

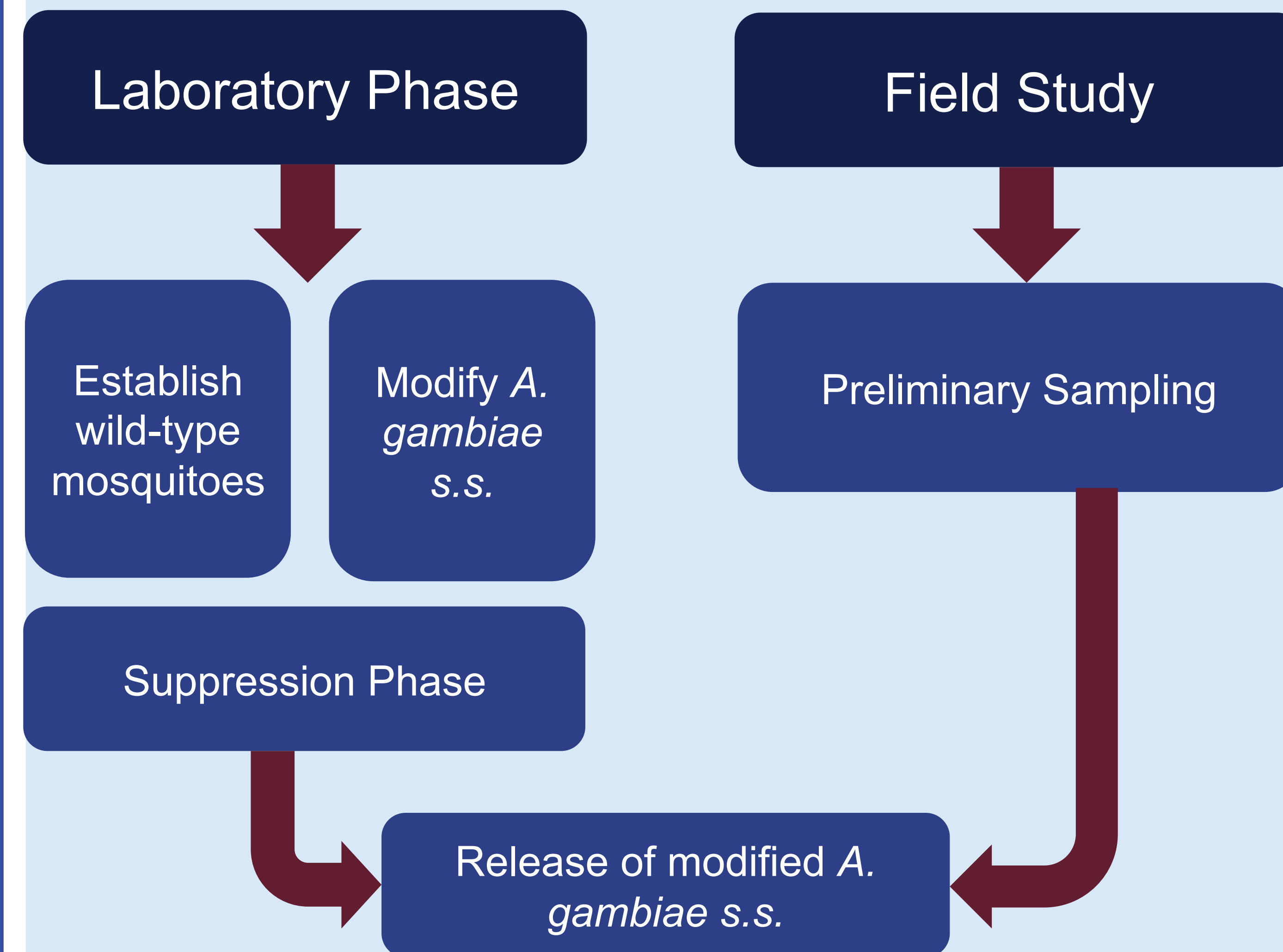
Mosquitos spread *Plasmodium* parasites from one host to another, serving as the vectors of malaria (8).

In Kou Valley, Burkina Faso, the entomological inoculation rate is around 60 infected bites per person per year (2).

## Global Distribution of *Plasmodium falciparum* (10)



## Methods

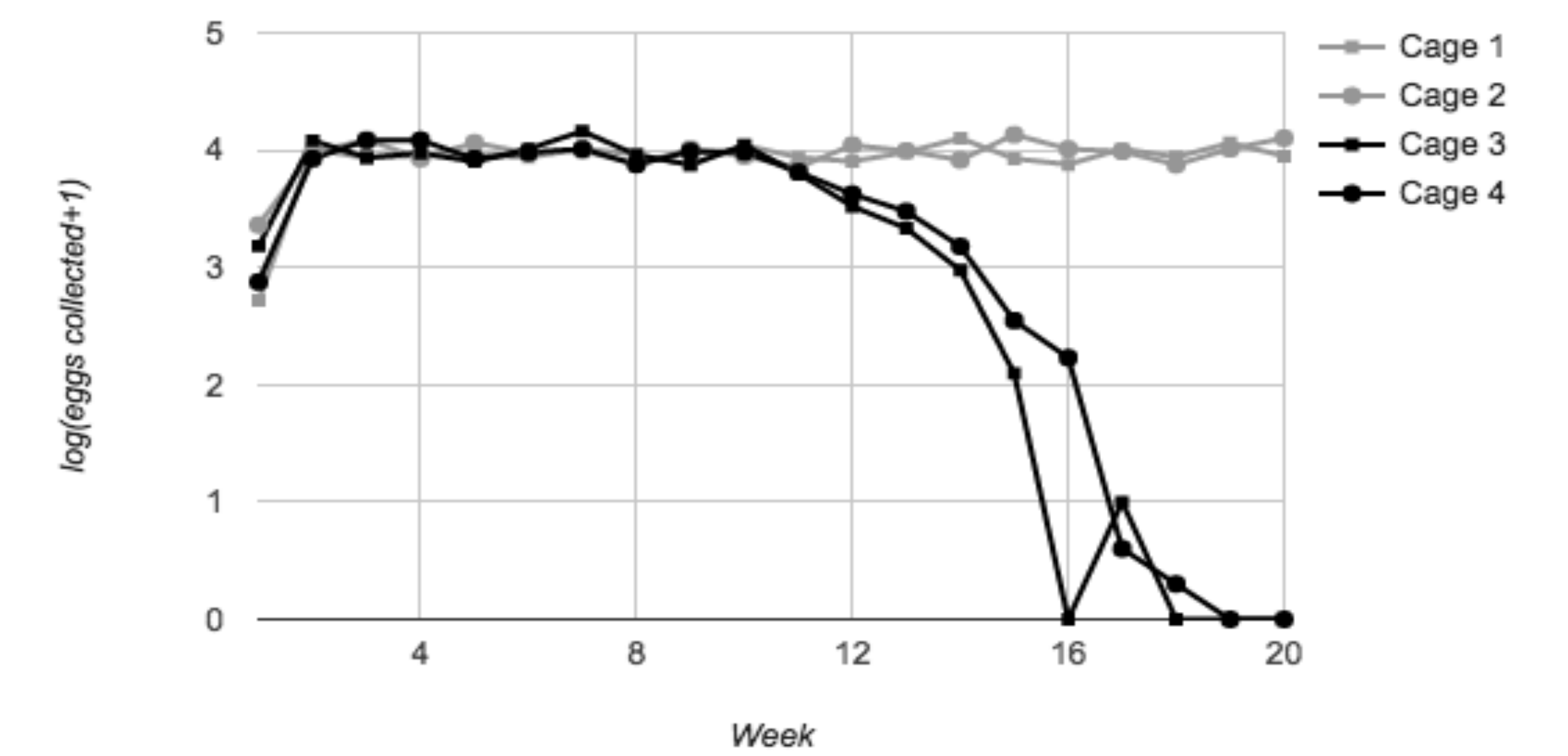


## Anopheles Mosquito Pumping Blood (1)



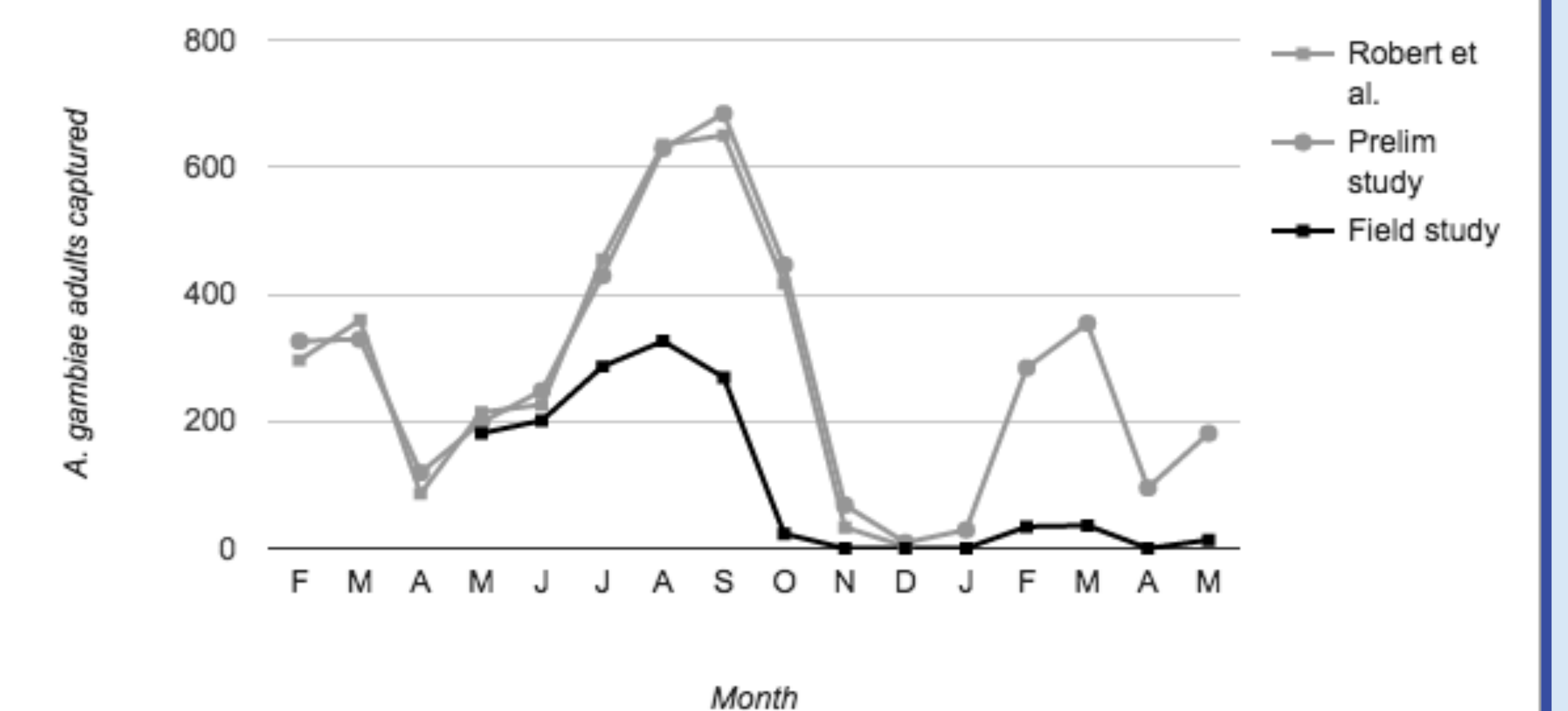
## Predicted Results

Number of Eggs Collected Per Week Per Cage



Cage 1 and Cage 2 contained only wild-type mosquitoes. Cage 3 and Cage 4 had modified mosquitoes introduced at the end of week 10 (4).

Number of *A. gambiae* Observed on Humans Per Month



In the field study where OX513A male mosquitoes were released in May. The Robert et al study was done independently by another research group (8, 9).

## Goals

Genetic Modification

Population Control

RIDL on *A. gambiae* s.s.

Control *A. gambiae* s.s. in lab

Control *A. gambiae* s.s. in KV4

## Acknowledgments

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## References

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## Conclusions

Accomplished

Future Applications

Successful field study

Expand field study area

Use of RIDL on other vectors