A Study of Mosquito Larval Habitats and Water Quality in a School Area and a Residential Community in Krabi Province, Thailand

Presented by

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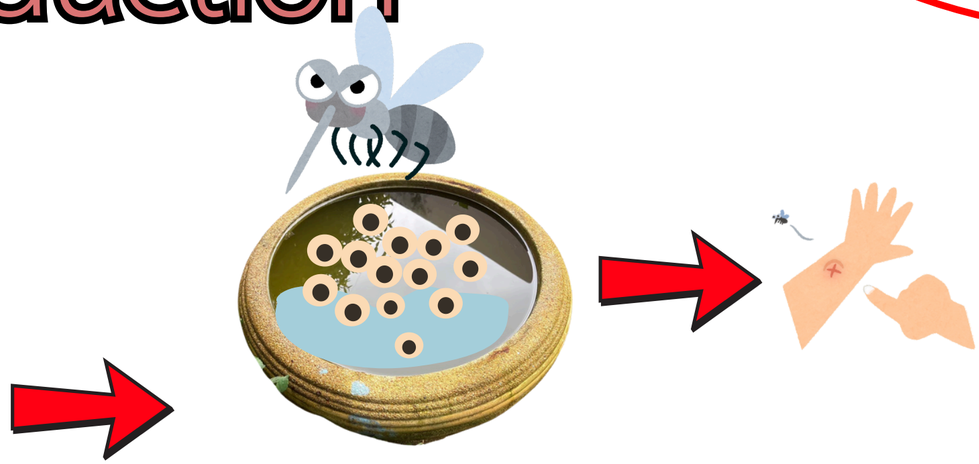
OVERVIEW

Introduction

Fig.1 Ammartpanichnukul school



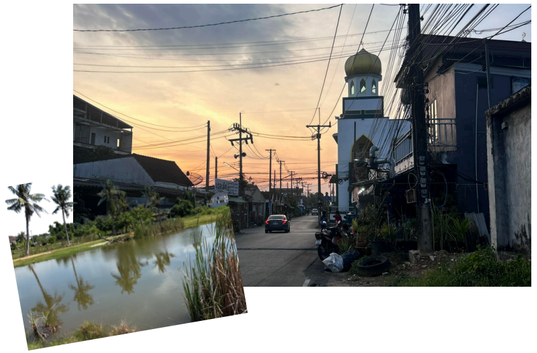


Fig.2 Ban Khlong Hin

Mosquito breeding sites are commonly found in both school environments and surrounding residential communities, where standing water can serve as suitable habitats for mosquito larvae.

Objectives

- 1. To compare the number of mosquito larval habitats between the school area and the residential community.
- 2. To compare water quality parameters in water sources within the school area and the residential community

Study Area

2 Study sites in Krabi

- Ammartpanichnukul School, Krabi Province
- Ban Khlong Hin Community, Sai Thai Subdistrict, Mueang Krabi District, Krabi Province

Fig.3 World map

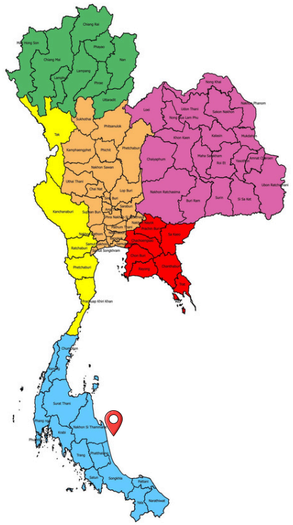


Fig.4 Thailand map

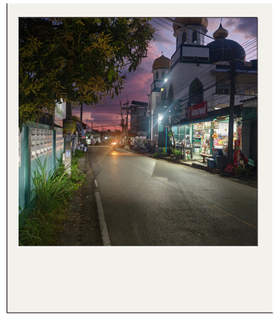
Fig.5 Ammartpanichnukul School

Fig.6 Ban Khlong Hin, Sai Thai Subdistrict, Mueang Krabi District, Krabi Province

Methods

1 Water sources in the school area and residential community were surveyed.

Ammartpanichnukul School



Ban Khlong Hin

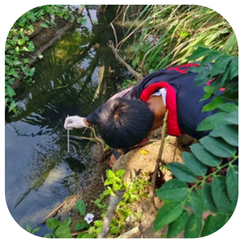
Fig. 7 school area and residential community

2 Water quality parameters including pH, dissolved oxygen (D.O.), temperature, and salinity were measured.

pH

D.O.

temperature



salinity

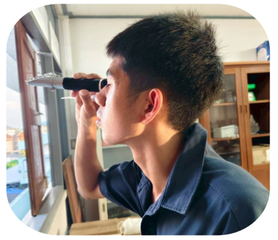


Fig. 8 Water quality measurement

3 Mosquito larvae were collected and identified using a hand lens and reference guides.

Collect

Fig. 9 Collect mosquito larvae.

identified

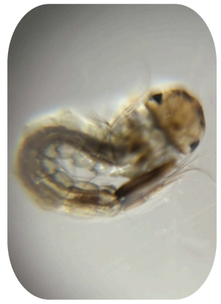
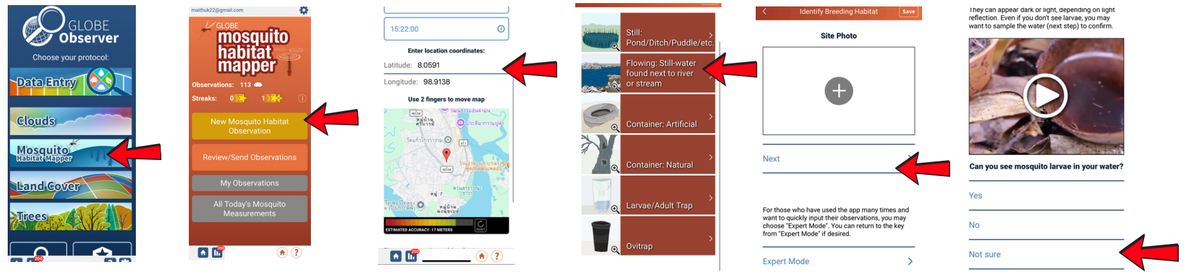


Fig. 10 Identify the type of larvae.

4 Geographic coordinates were recorded using the GLOBE Observer application.



1) Choose mosquito item

2) Select the New Mosquito of observations habitat.

3)Observe the date and time and the latitude and longitude coordinates of the place where the mosquitoes were found.

4) Choose a container or source where mosquitoes are found.

5) Take a photo of the mosquito larvae found in the container.

6) specified the number of larvae that were observed during the investigation

Fig. 11 Data were recorded using the GLOBE Observer application

Data were collected during December (late rainy season) and January (early winter season).

Methods

CONTAINERS

Metal, Plastic, Clay, Rubber / Other containers

Metal container

(Paint bucket)

Plastic container

(Plastic bucket)

Earthenware container

(Plant pot)

Container from rubber

(Rubber wheels)

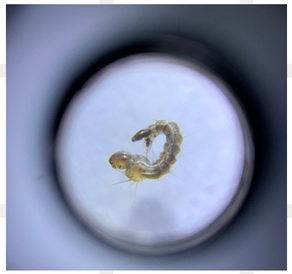
Other types

(Cement plant pot)

Fig. 12 Various types of containers

Methods

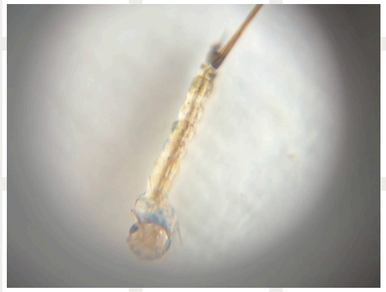
TYPES OF MOSQUITO LARVAE FOUND

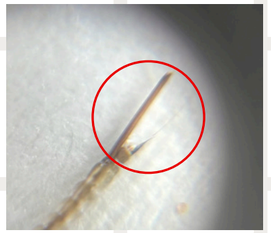


Aedes albopictus

Scientific name :Aedes albopictus

Fig. 13 Characteristics of the Aedes albopictus





Culex mosquito

Scientific name : Culex spp.

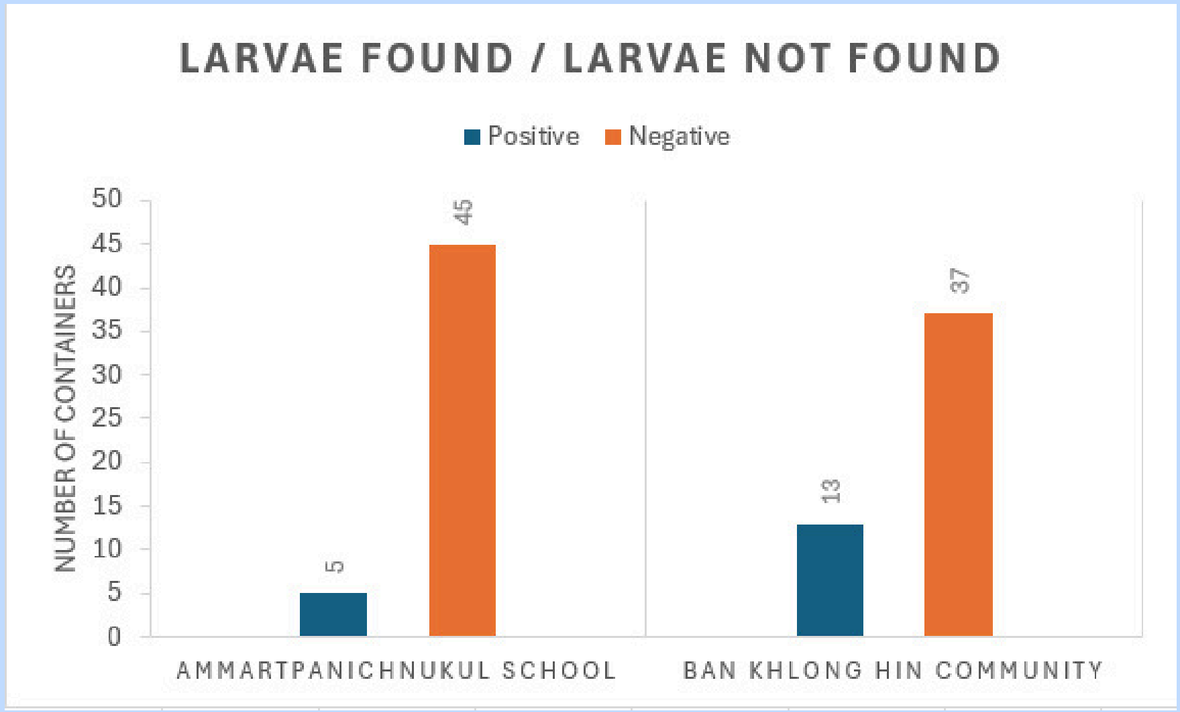
Fig. 14 Characteristics of the Culex mosquito

Armigeres mosquito

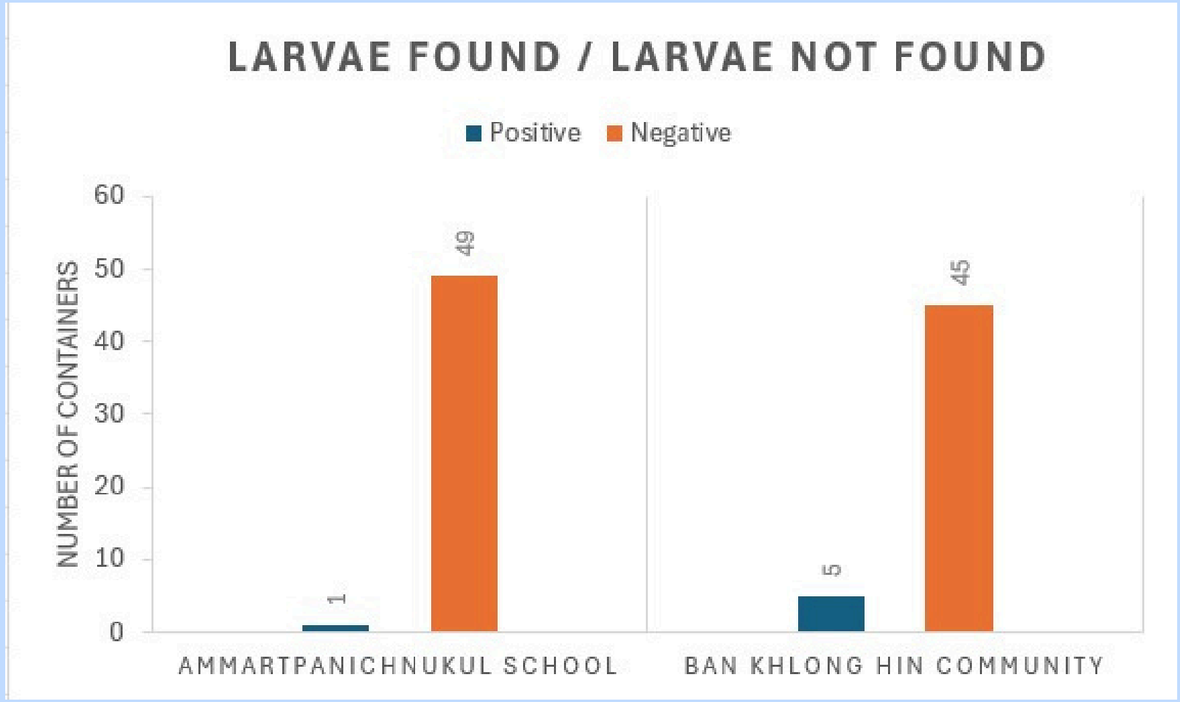
ชื่อวิทยาศาสตร์ : Armigeres subalbatus

Fig. 15 Characteristics of the Armigeres mosquit

MOSQUITO LARVAE FOUND / NO MOSQUITO LARVAE FOUND



First survey, December 2025



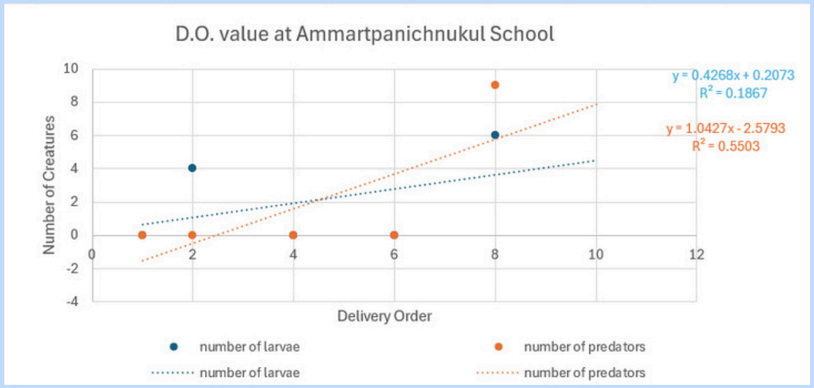
Second survey, January 2026

Fig.16 Graph Comparison in Survey 1 and Survey 2

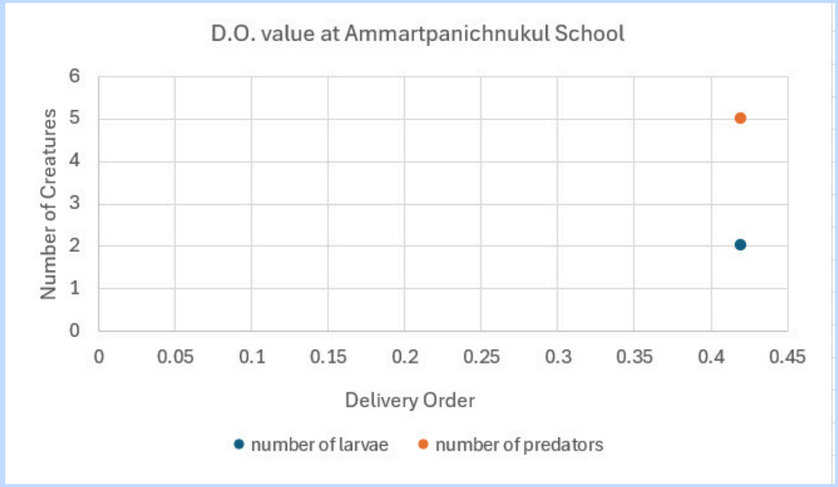
- The results show differences in mosquito larval habitats and water quality between the school area and the residential community.

D.O.

Ammat Panichanukul School Area

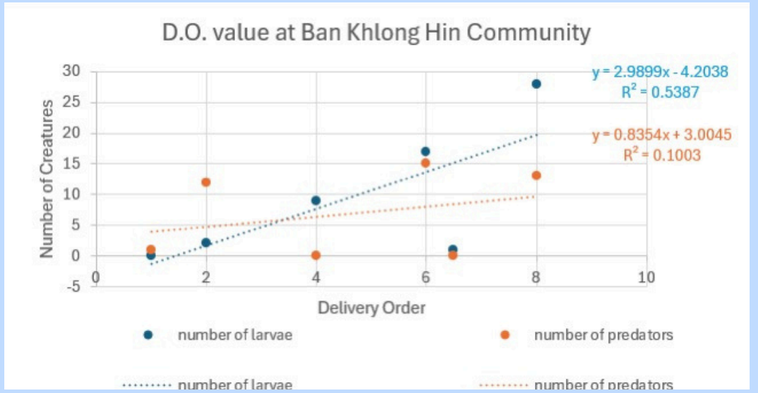


First survey, December 2025

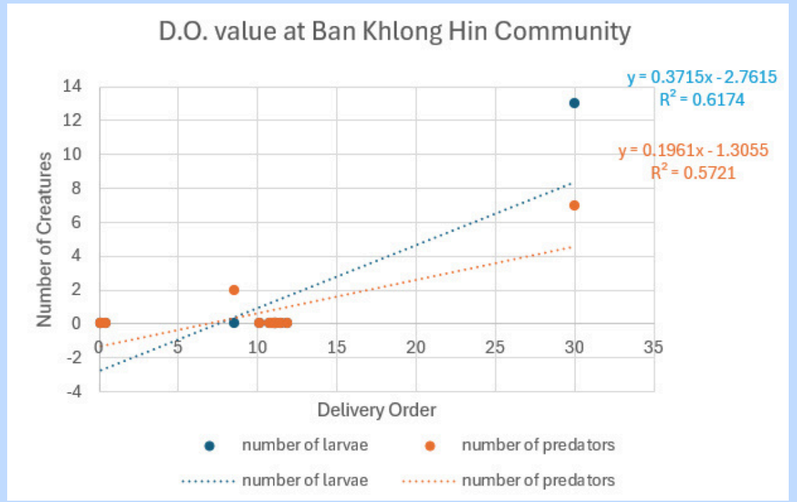


Second survey, January 2026

Khlong Hin community Area



First survey, December 2025

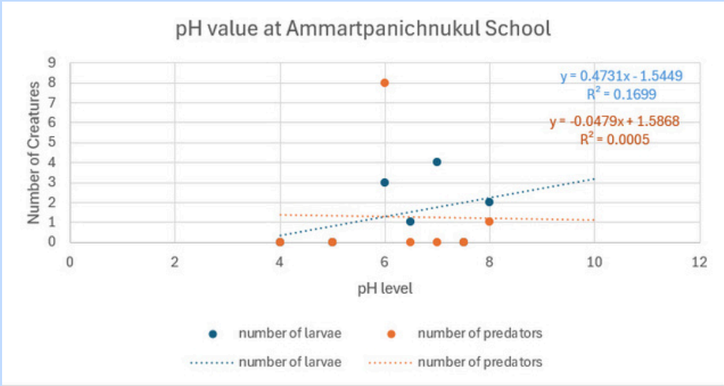


Second survey, January 2026

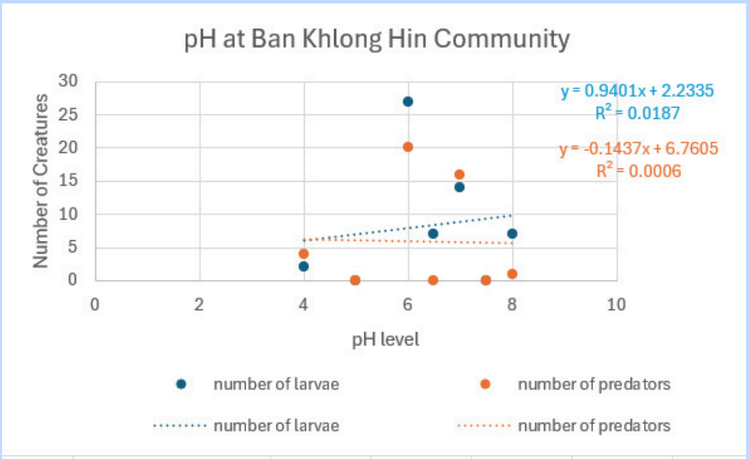
Fig.17 Graph Comparison in Survey 1 and Survey 2

- The results show differences in mosquito larval habitats and water quality between the school area and the residential community.

pH

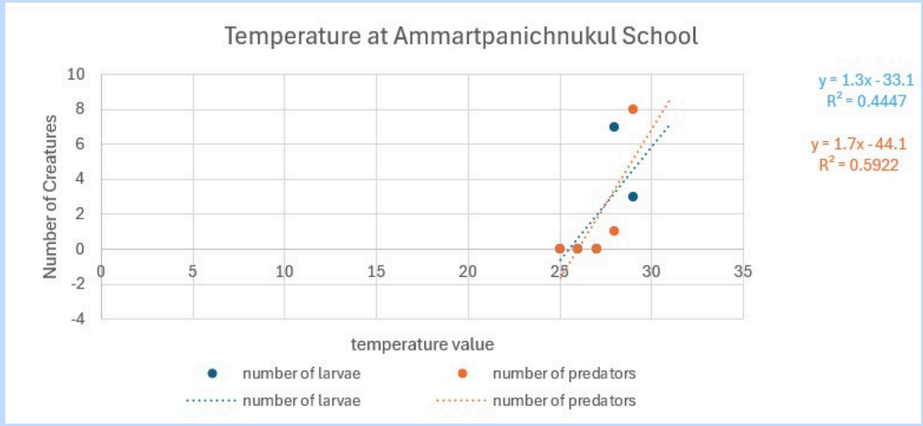


Ammat Panichanukul School Area

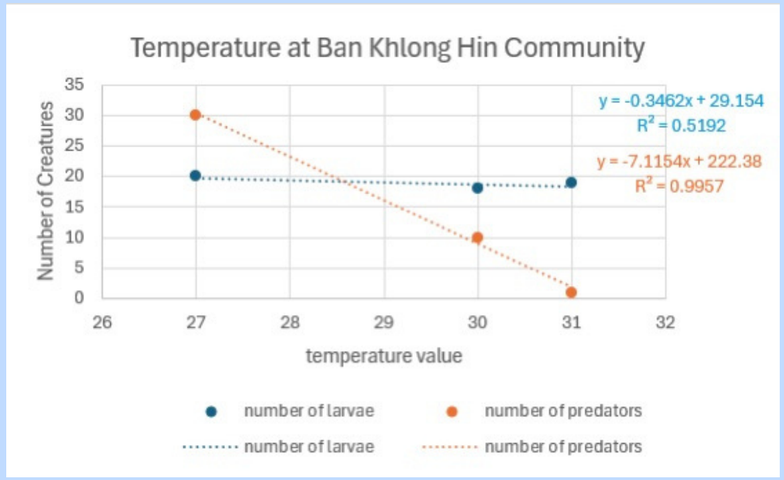


Khlong Hin community Area

Temperature



Ammat Panichanukul School Area



Khlong Hin community Area

Fig.17 Graph Comparison in Survey

• The results show differences in mosquito larval habitats and water quality between the school area and the residential community.

Conclusion

- The study found that mosquito larval habitats were more frequently observed in the residential community than in the school area. Differences in water quality parameters, including pH, dissolved oxygen, temperature, and salinity, were observed between the two study areas.

- These findings indicate variations in environmental conditions between the school area and the residential community based on the variables investigated in this study.

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Gratitude is also extended to Ban Khlong Hin Community and the local residents in the study area for their cooperation, permission to conduct the study and collect data, as well as for providing useful information and insights that greatly supported the research process.

Finally, the research team sincerely hopes that this project will be beneficial to learning in the fields of science, environment, and health, and that it can serve as baseline information for future studies and local management of mosquito breeding sites.