
MOSQUITO LARVAL
PREDATOR DIVERSITY
AND ITS ABUNDANCE
Presented by Group4

Activity pictures

Overview

-Introduction

-Materials and Methods

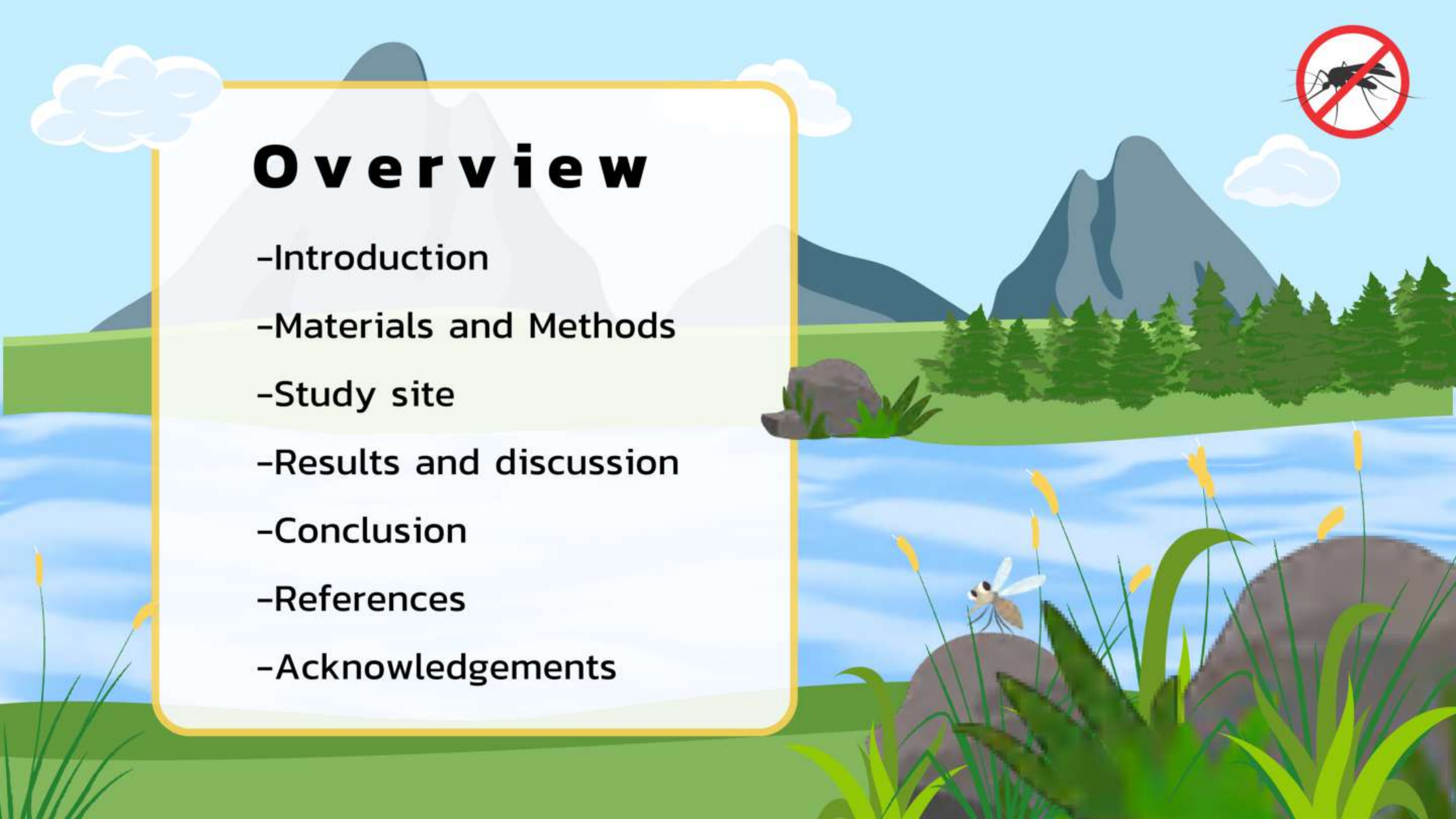
-Study site

-Results and discussion

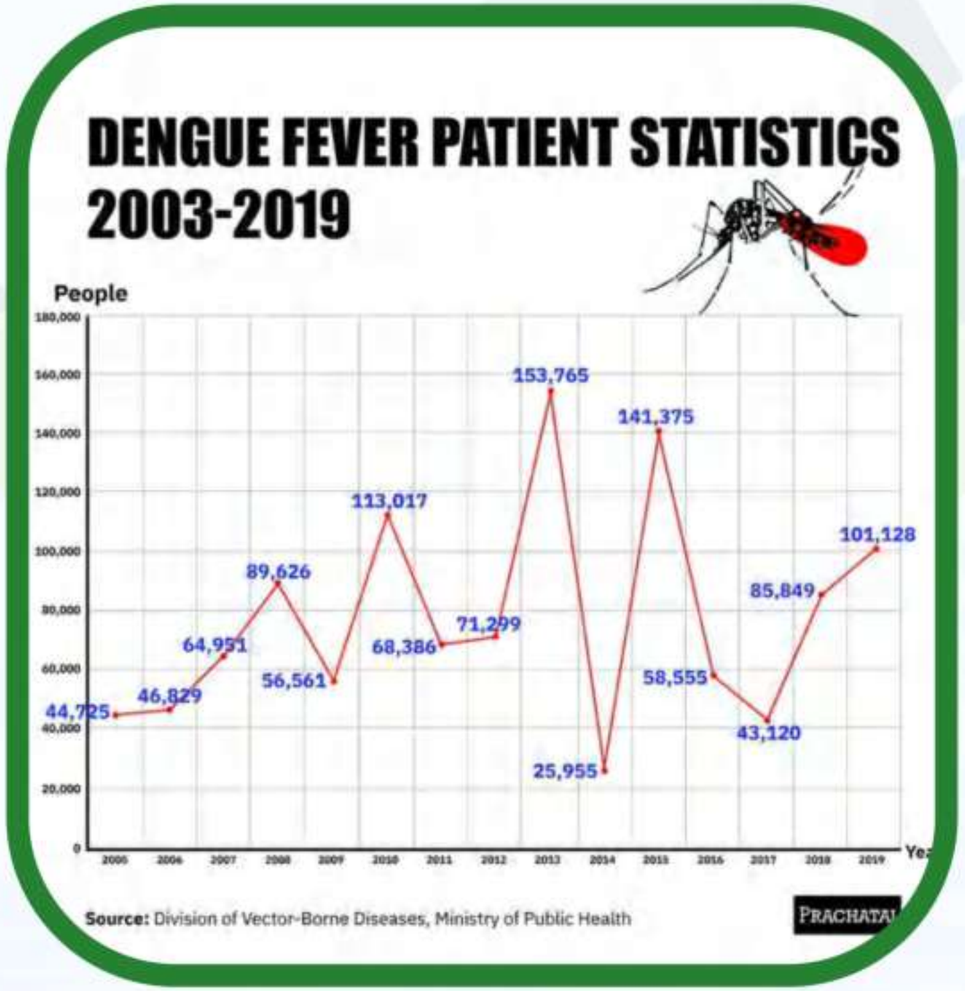
-Conclusion

-References

-Acknowledgements



Introduction



Introduction

- The role of predatory aquatic insects in the natural regulation of mosquito larvae has been reported by many researchers.
- However, predators vary markedly in the different habitats that immature and adult mosquitoes frequent.
- Past experimental studies confirmed that predation on immature mosquitoes by macroinvertebrates can be a major driving force in controlling the population size of mosquitoes.

Introduction

Examples of mosquito larvae predators

Water Striders
(จิ้งโจ้น้ำ)

Bezzia expolita
(มวนน้ำ)

Notonecta glauca
(มวนกรรเชียง)

Objectives

- To study the role of predators in influencing the control of the number of Aedes mosquito larvae.
- To study whether predators directly or indirectly influence mosquito population dynamics.
- To study predators, it may be possible to limit the number of Aedes mosquito larvae and reduce the density of adults.

Materials and Methods

3 Study sites in Phetchaburi

- away from the dam 1 km.
- away from the dam 3 km.
- away from the dam 5 km.

Study Sites

Fig.1 map thailand

Fig.2 map Phetchaburi

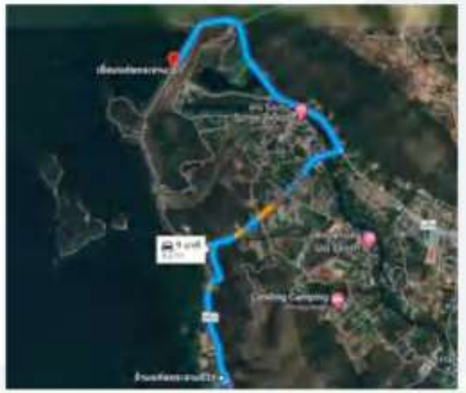


Fig.3 away from the dam 1 km.

Fig.4 away from the dam 3 km.

Fig.5 away from the dam 5 km.

Methods

GLOBE Observer: mosquito habitat mapper app

1

1. Choose mosquito item

2

2. Select the New Mosquito of observation habitat.

3

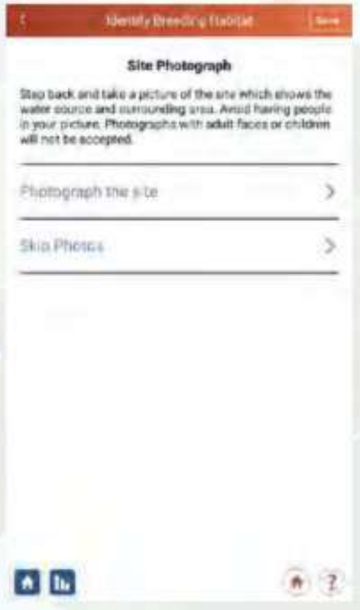
4

3,4 Observe the date and time and the latitude and longitude coordinates of the place where the mosquitoes were found.

5

5. Choose a container or source where mosquitoes are found.

6



6. Take a photo of the mosquito larvae found in the container.

Fig.6

Methods

Man made / natural containers

Man made containers (site 1)

Natural containers (site 1)

Fig.7

Methods

Man made / natural containers

Man made containers (site 2)

Fig.8

Methods

Man made / natural containers

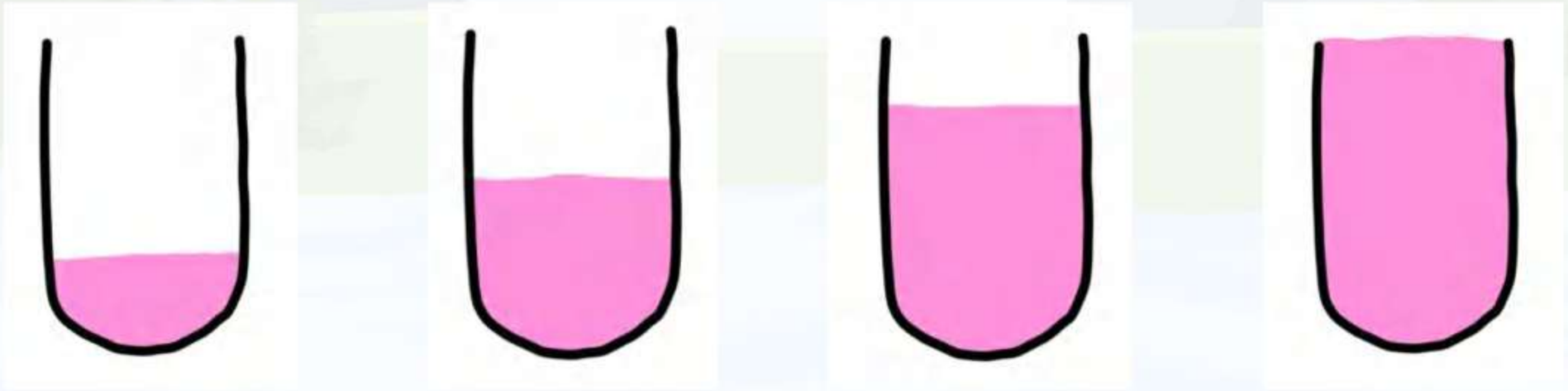
Man made containers (site3)

Natural containers (site 3)

Fig.9

Methods

Water Levels
(0-25%, 26-50%, 51-75%, 76-100%)



0-25%

26-50%

51-75%

76-100%

Fig.10

Methods

Fig.11 Idantifying different types of mosquitoes

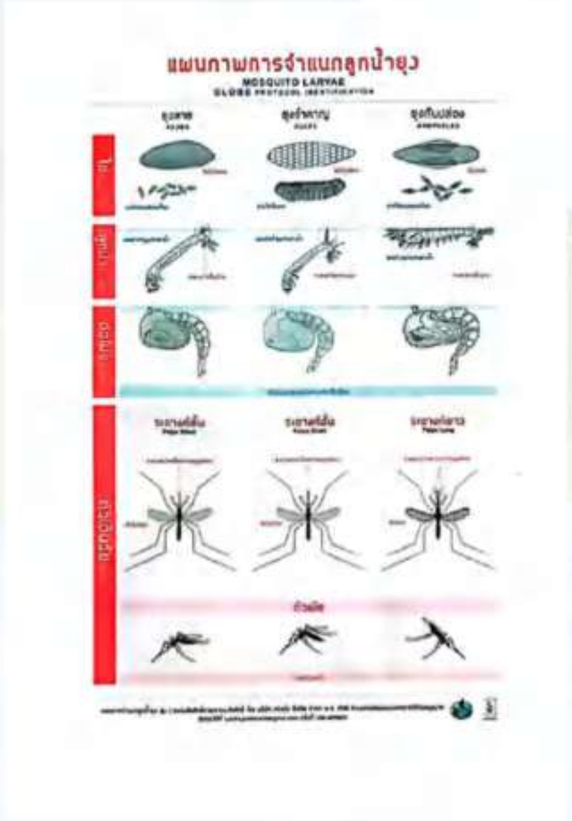


Fig.12 Idantifying different types of mosquitoes

Methods

Species of larvae mosquitoes

Fig.13 *Genus Culex*

Fig.14 *Aedes albopictus*

Methods

Species of larvae mosquitoes

Fig.15 *Armigeres subalbatus*

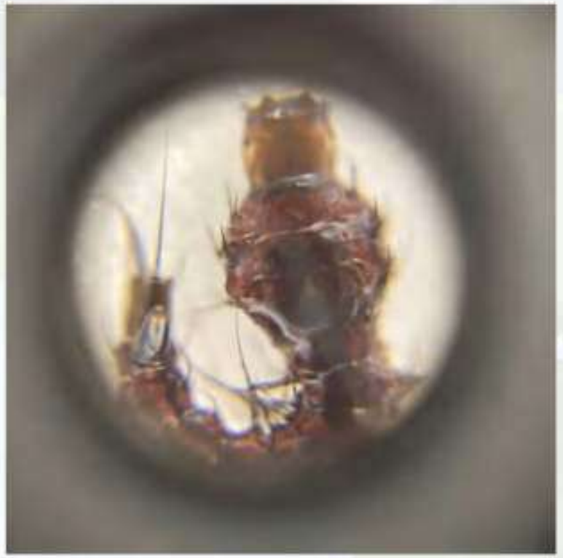


Fig.16 *Toxorhynchites*

Methods

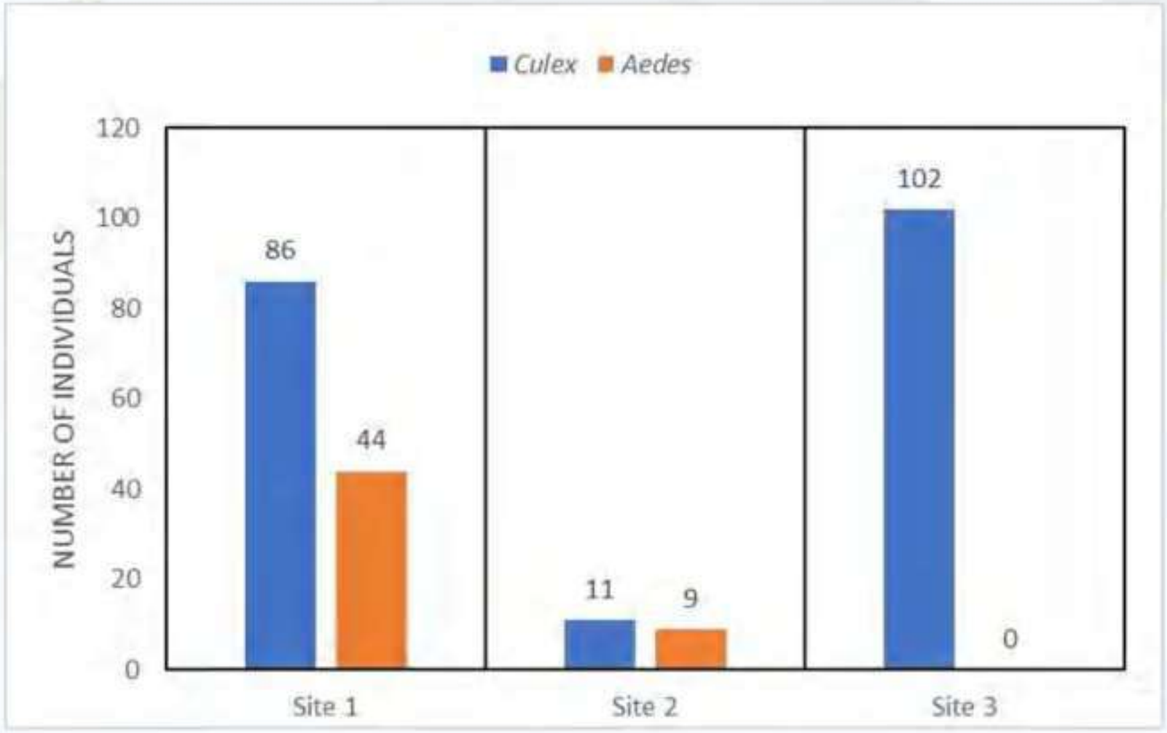
Species of larvae mosquitoes

Fig.17 *Veliidae*
(small water strider)

Fig.18 *Veliidae*
(small water strider)

Results and discussion

Species of larvae mosquitoes



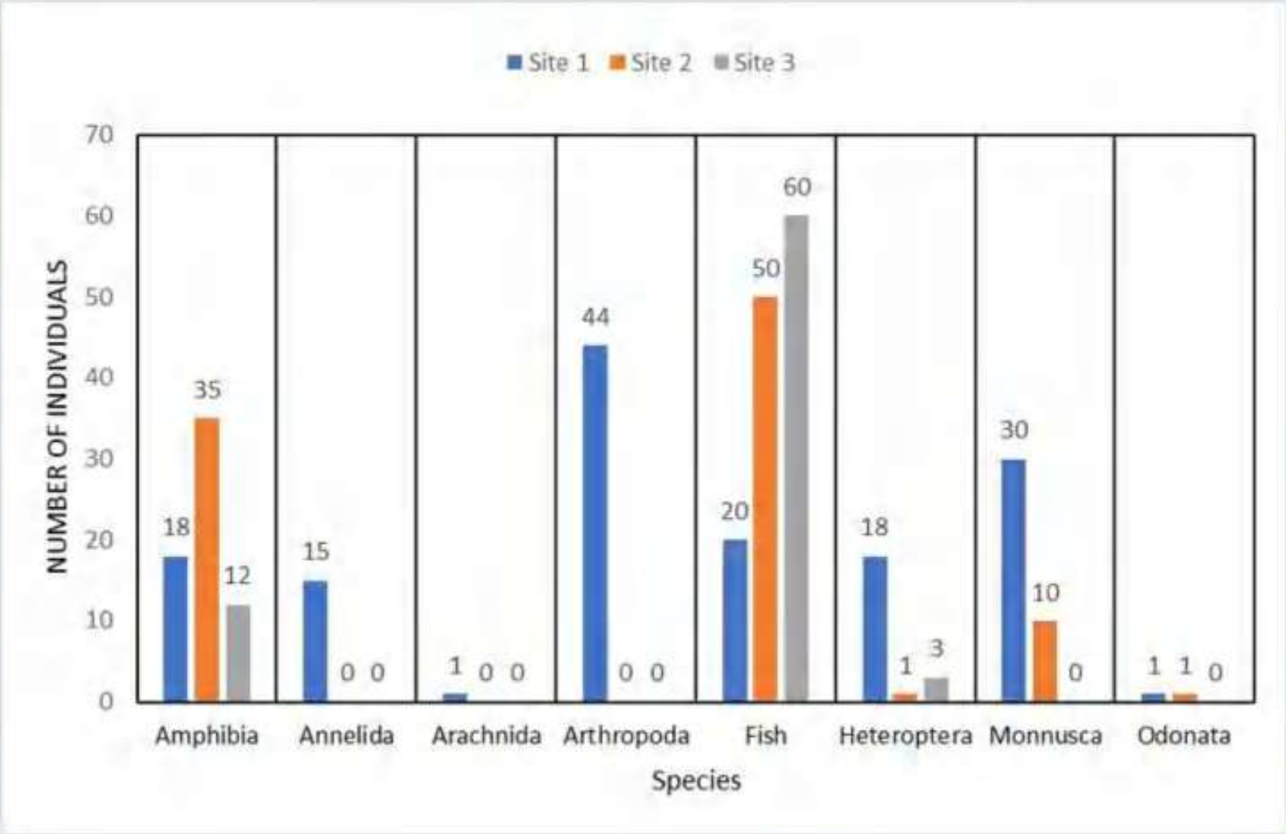
Site 1 found 86 Culex mosquito larvae and 44 Aedes mosquito larvae.

Site 2 found 11 Culex mosquito larvae and 9 Aedes mosquito larvae.

Site 3 found 102 Culex mosquito larvae, but no Aedes larvae were found.

Results and discussion

Species of predators



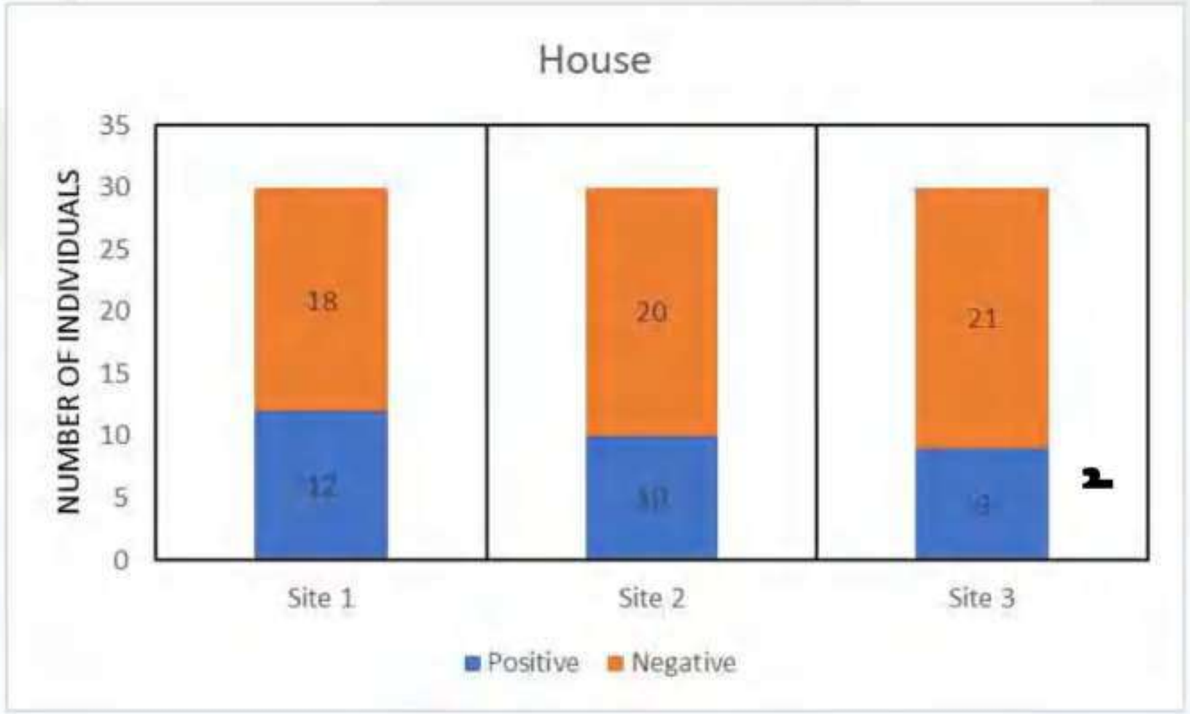
Site 1 The most predators species are Arthropoda.

Site 2 the most predators species are Fish.

Site 3 the most predators species are also Fish.

Results and discussion

House index



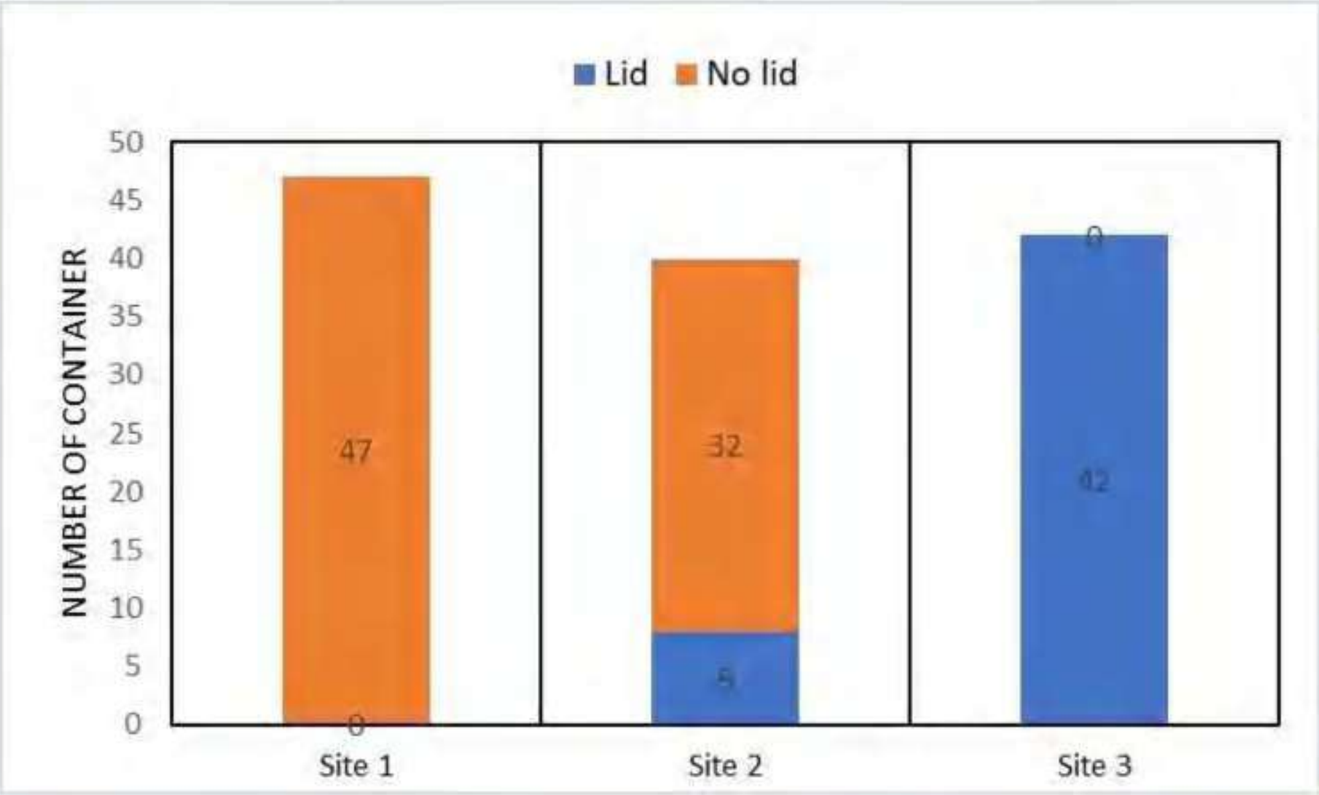
Site 1 from a total of 30 house Found 12 containers with larvae and Found 18 containers that does not have larvae.

Site 2 from a total of 30 house Found 10 containers with larvae and Found 20 containers that does not have larvae.

Site 3 from a total of 30 house Found 9 containers with larvae and Found 21 containers that does not have larvae.

Results and discussion

Lid / No lid containers



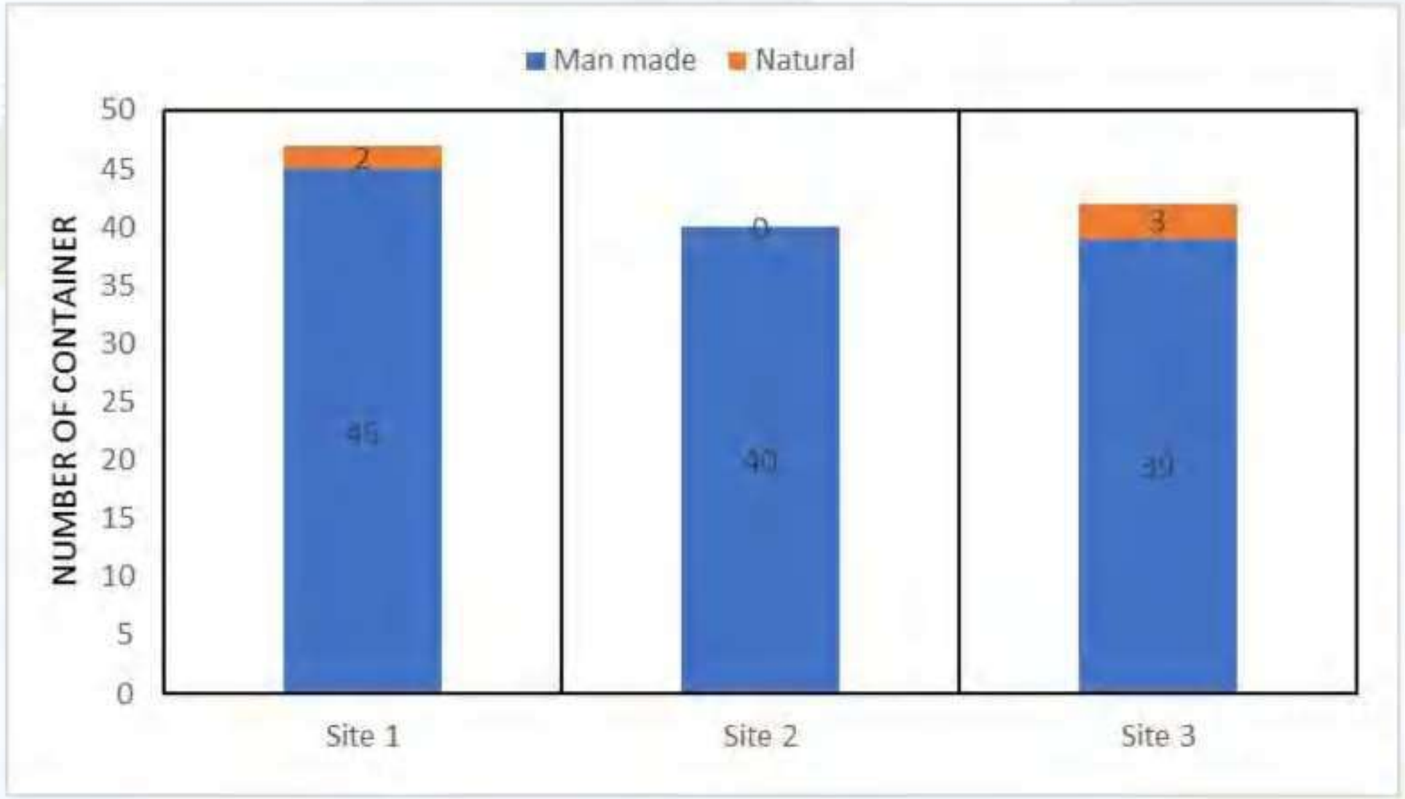
Site 1 found 47 containers thats doesn't have a lid.

Site 2 found 32 containers that doesn't have a lid and found 8 containers that have a lid.

Site 3 found 42 containers that have a lid.

Results and discussion

Man made / natural containers



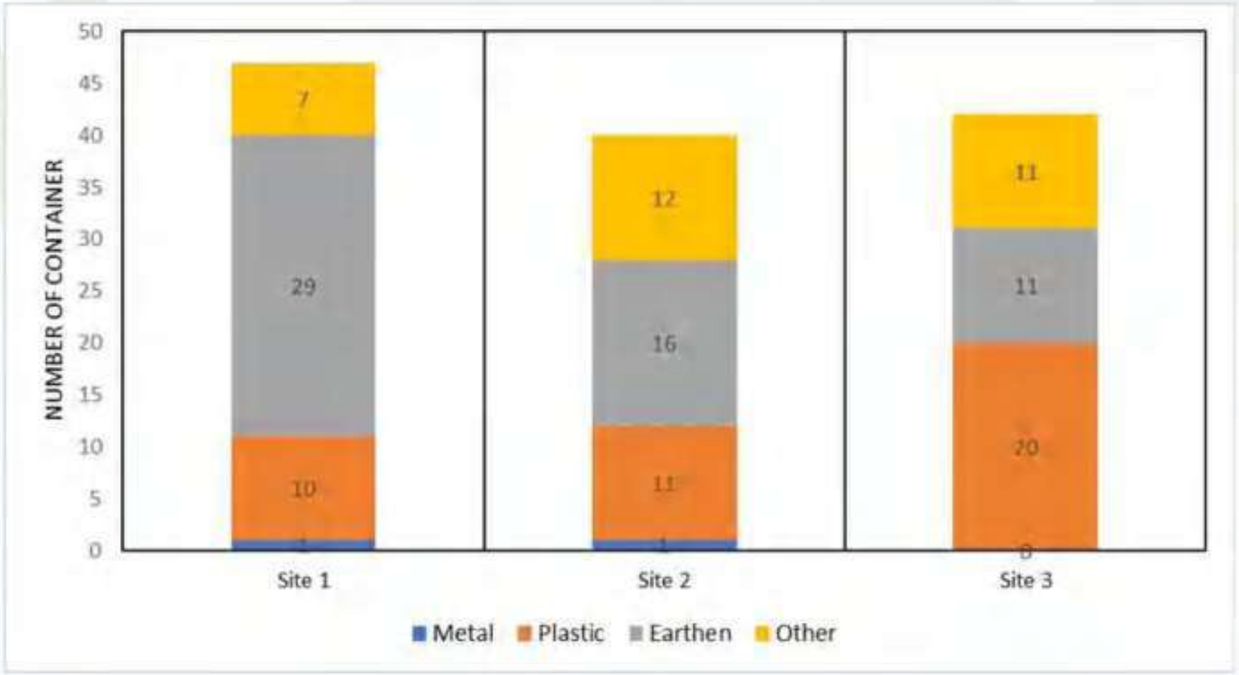
Site 1 Found 45 man made containers and found 2 natural containers.

Site 2 Found 40 man made containers and not found natural containers.

Site 3 Found 39 man made containers and not found natural containers.

Results and discussion

Metal plastic earthen / other containers



Site 1 found 1 Metal ,10 Plastic, 29 Earthen and 7 Others.

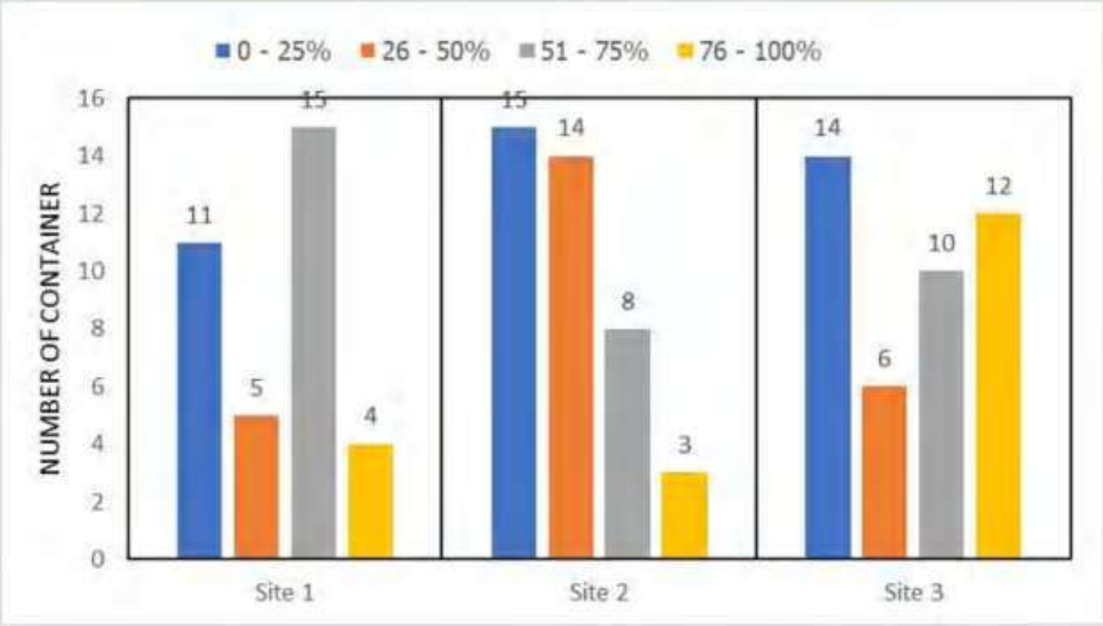
Site 2 found 1 Metal, 11 Plastic, 16 Earthen 7 and 12 Others.

Site 3 not found Metal,found 20 Plastic, 11 Earthen and 11 Others.

Results and discussion

Water Levels

(0-25%, 26-50%, 51-75%, 76-100%)



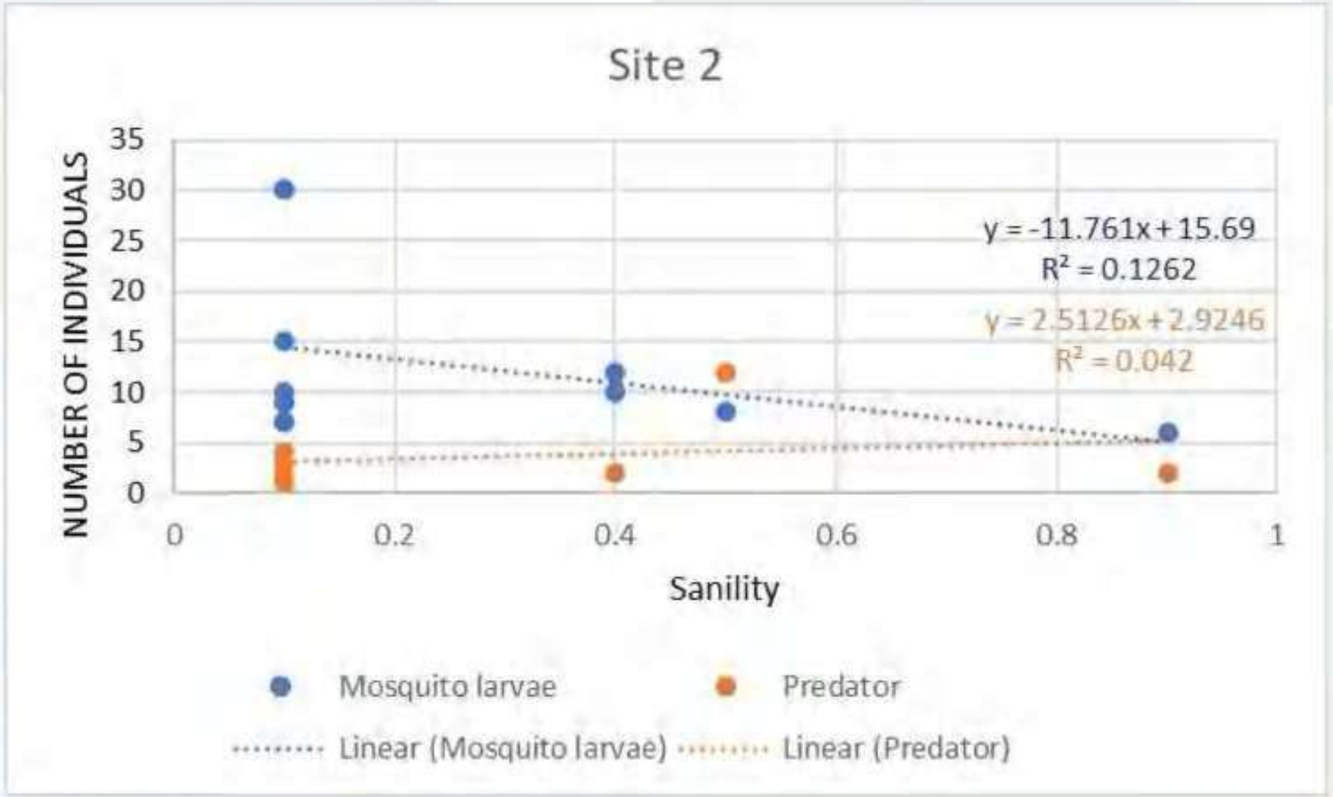
Site 1 found the highest water content of 51-75%.

Site 2 found the highest water content of 0-25%.

Site 3 found the highest water content of 0-25%.

Results and discussion

Compare water pH and the number of mosquito larvae and predators.



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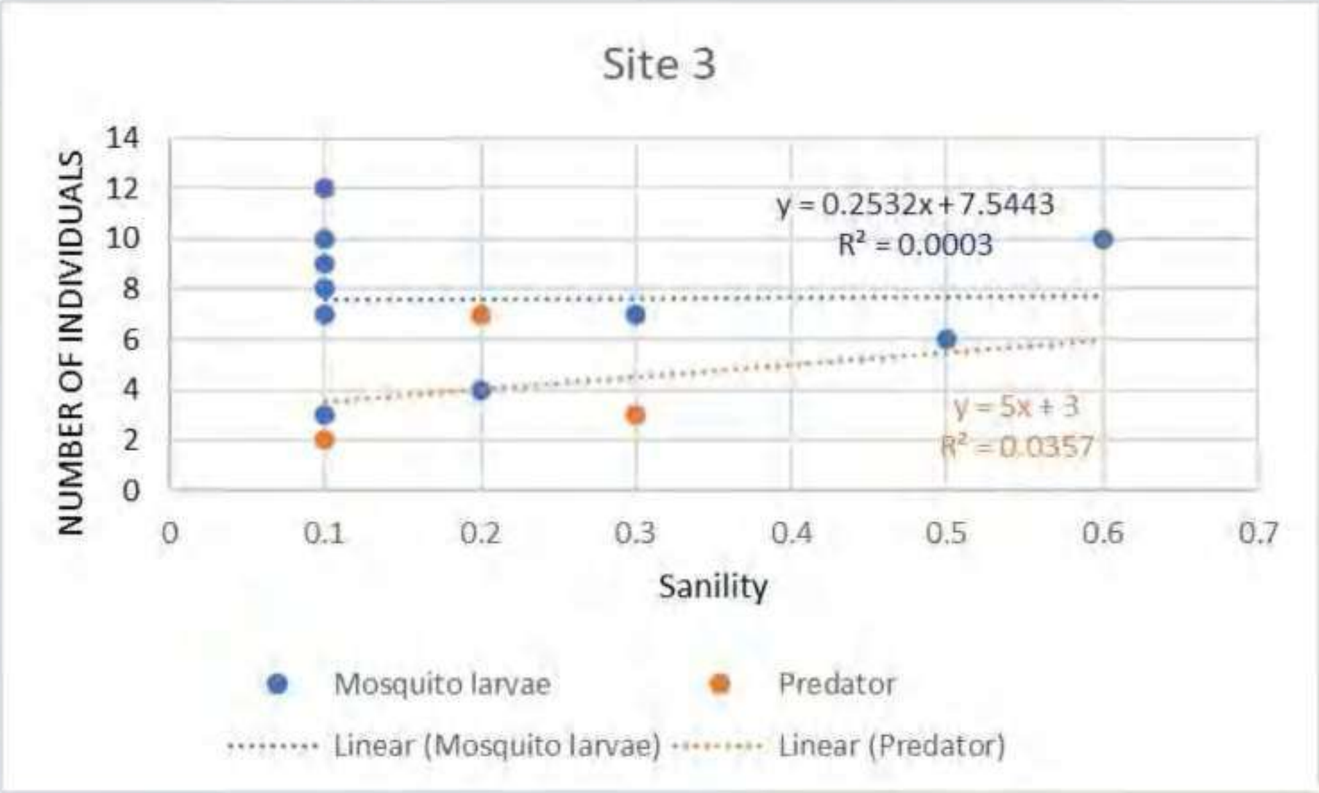

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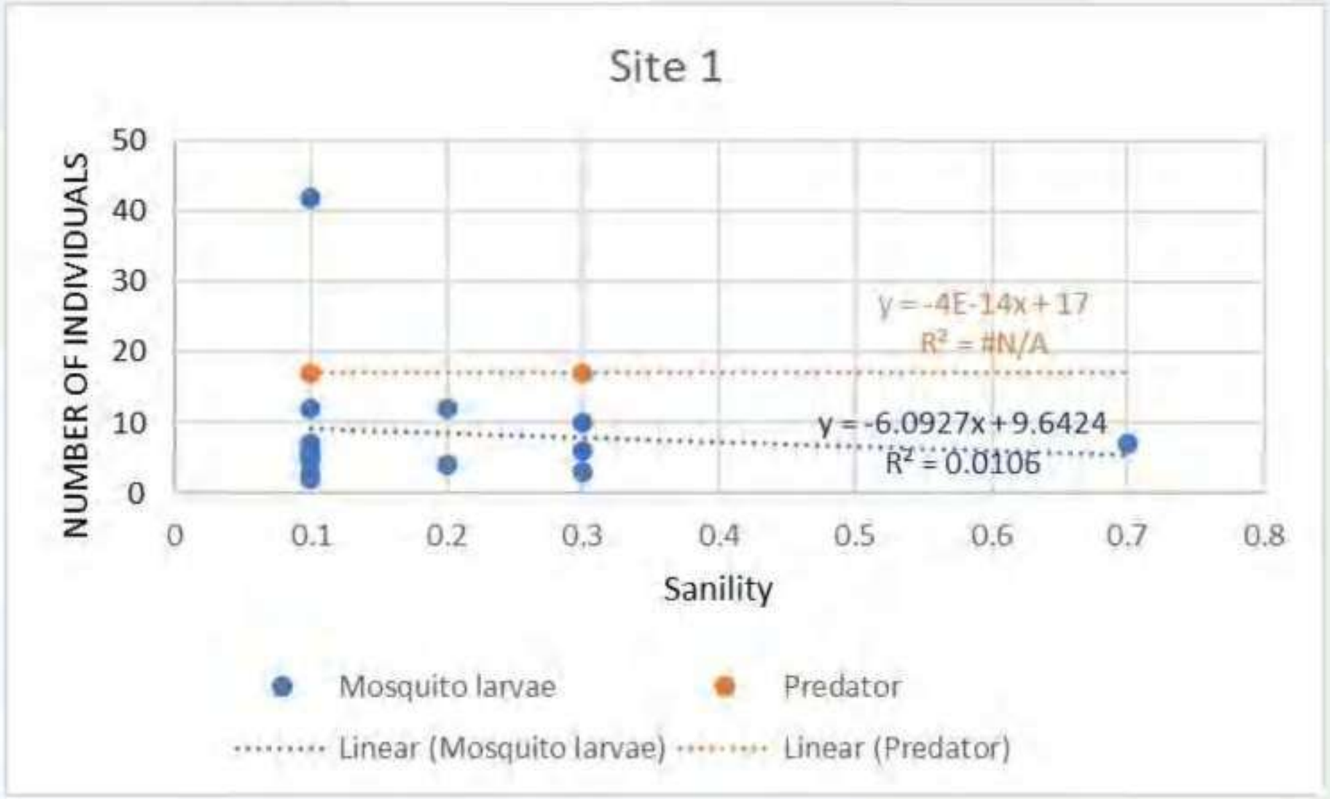
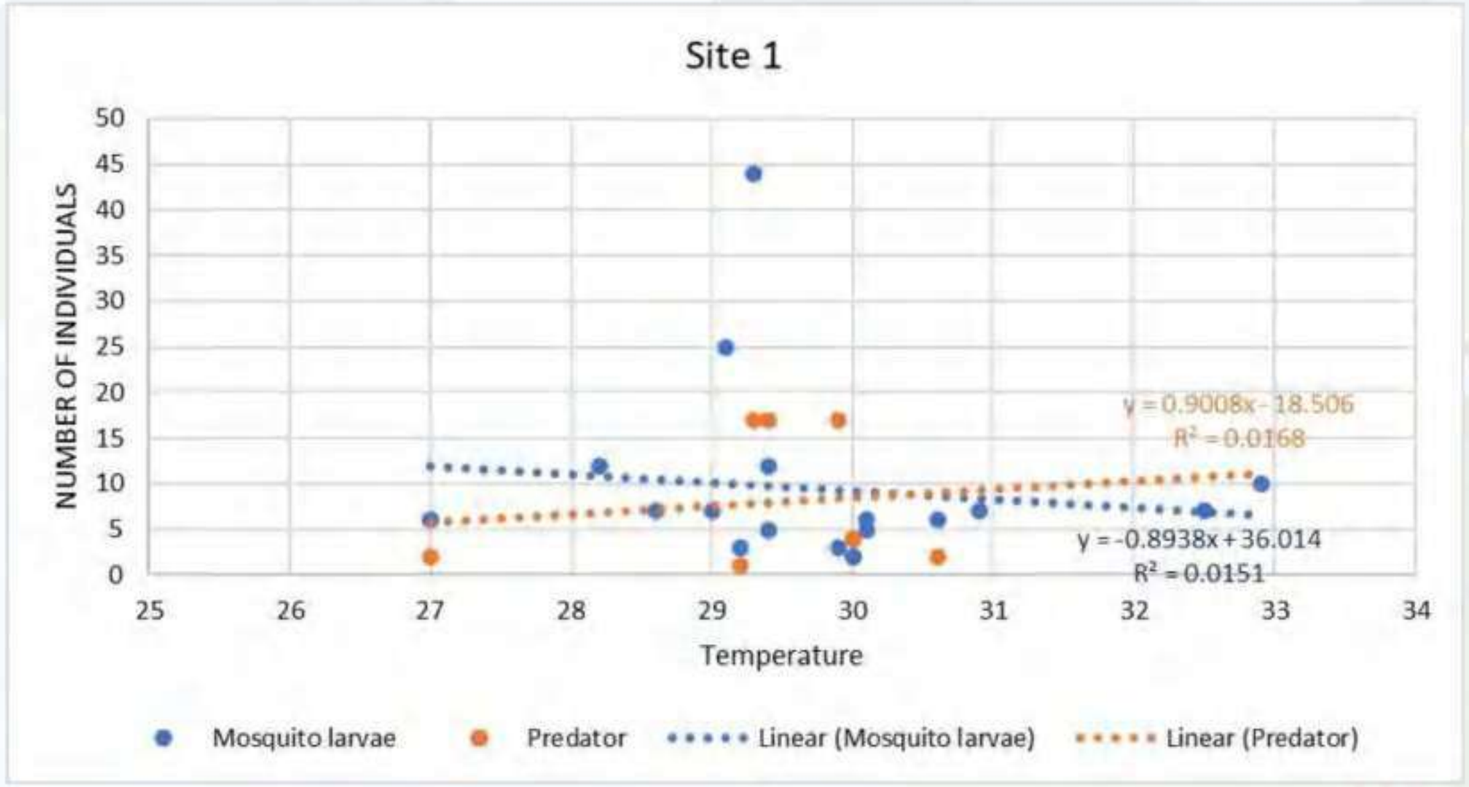


Results and discussion

Compare water temperature and the number of mosquito larvae and predators.



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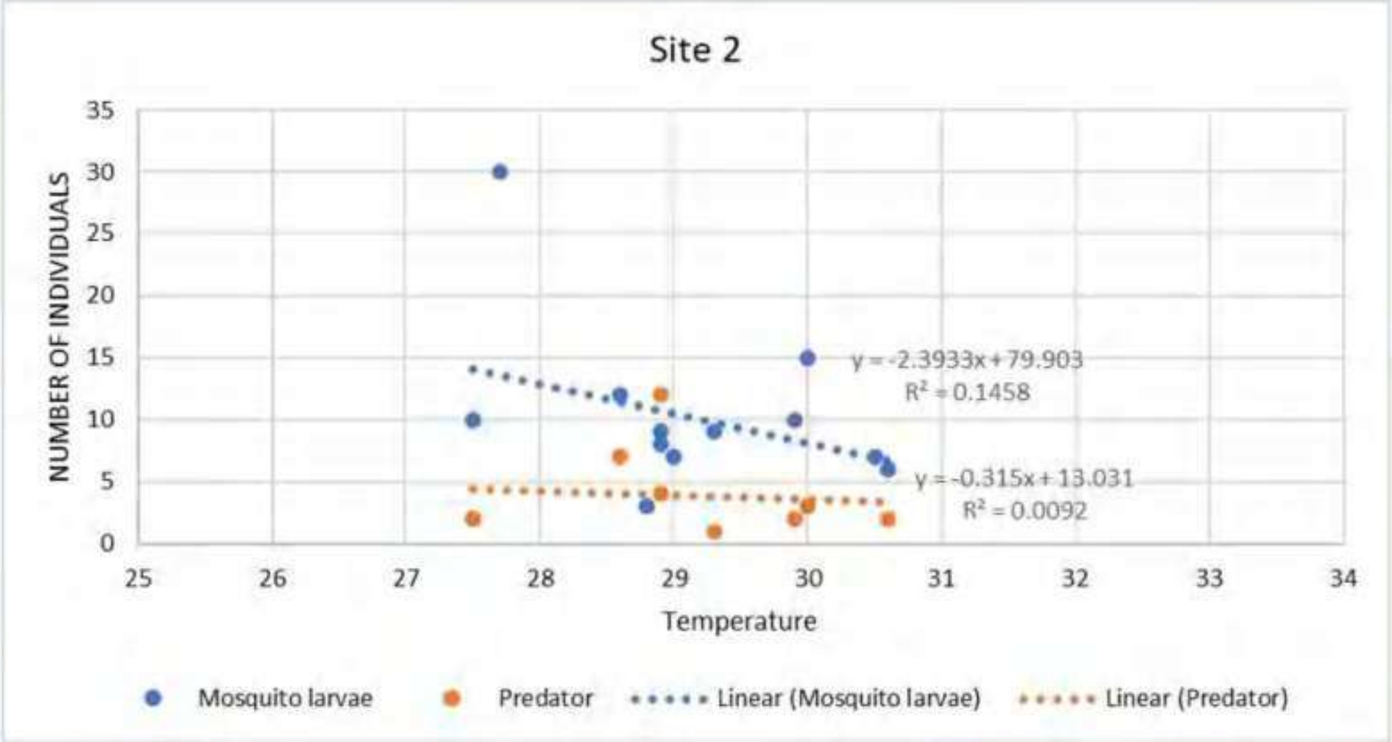

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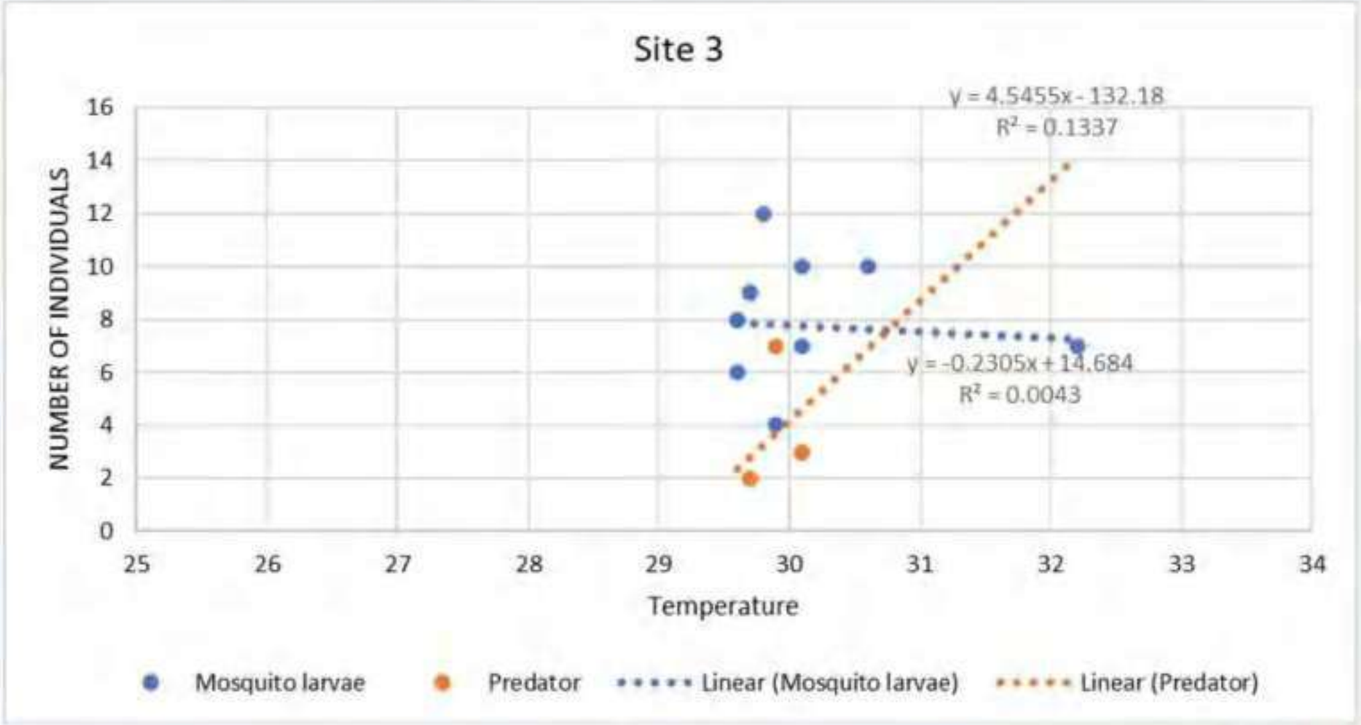
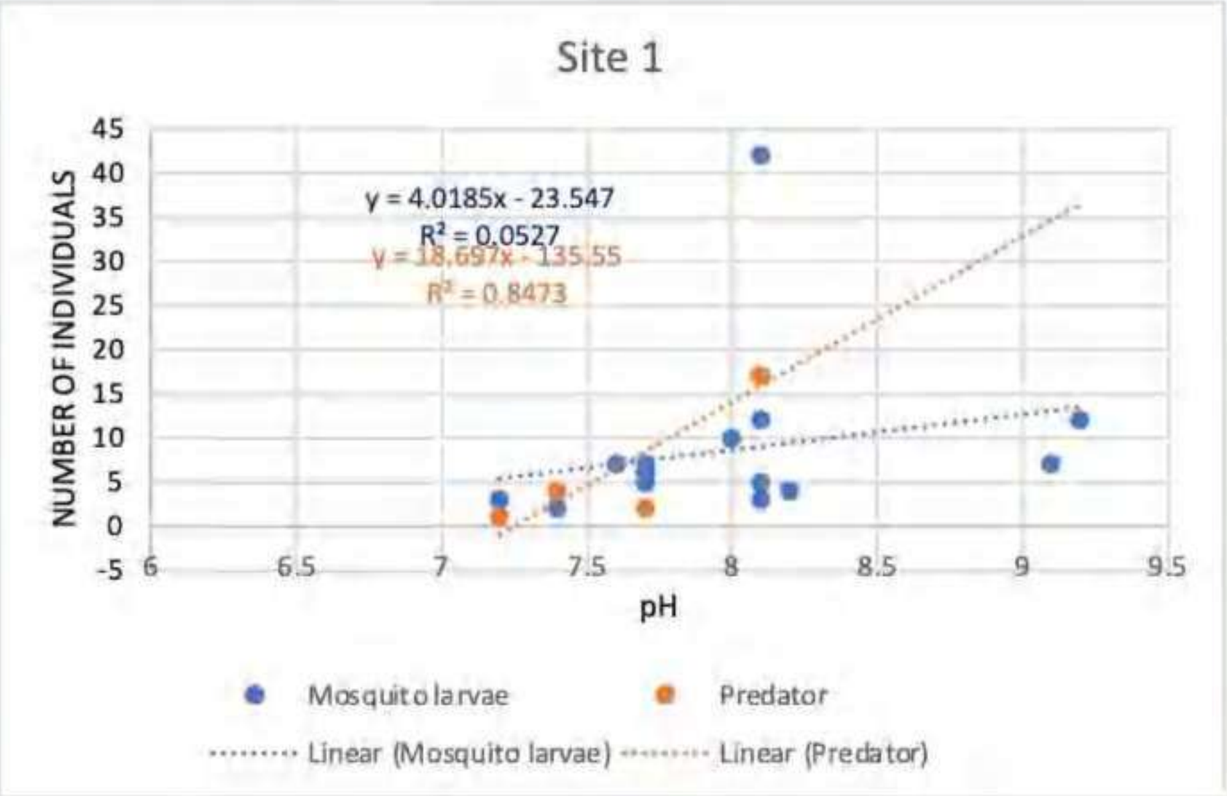


Results and discussion

Compare water salinity and the number of mosquito larvae and predators.



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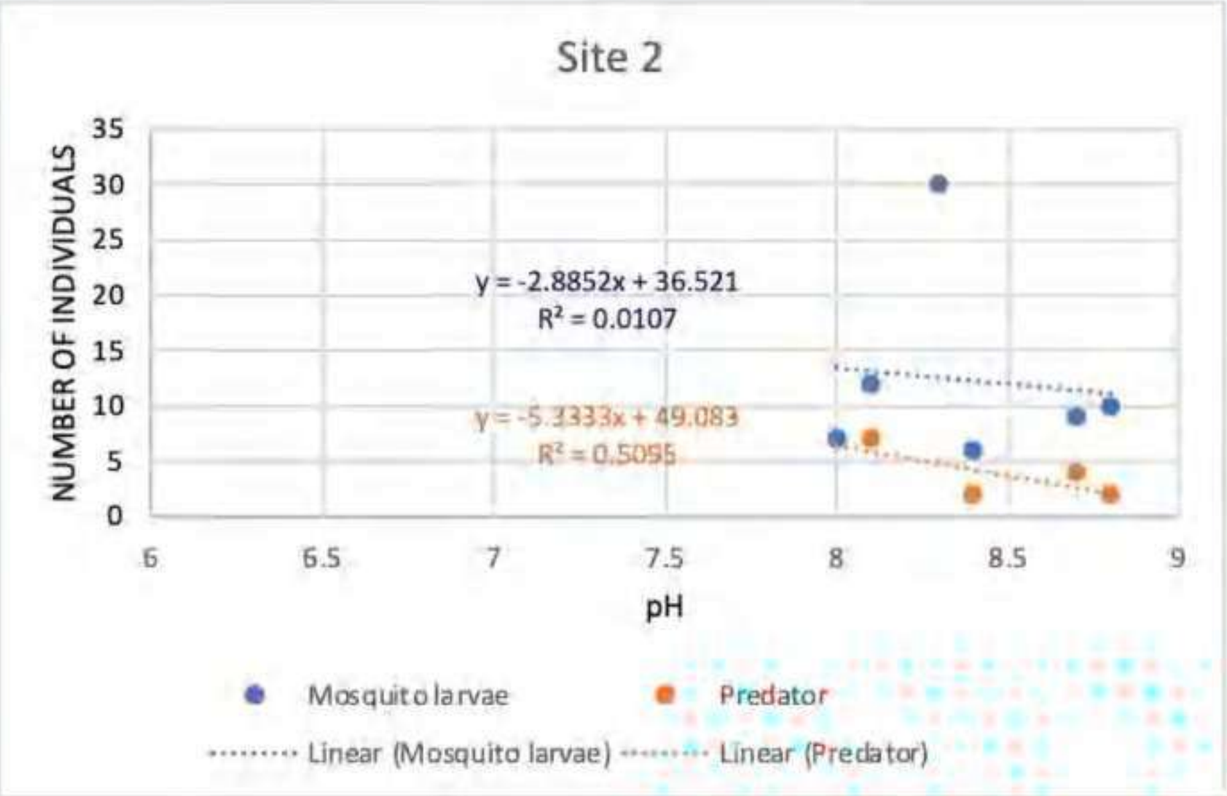

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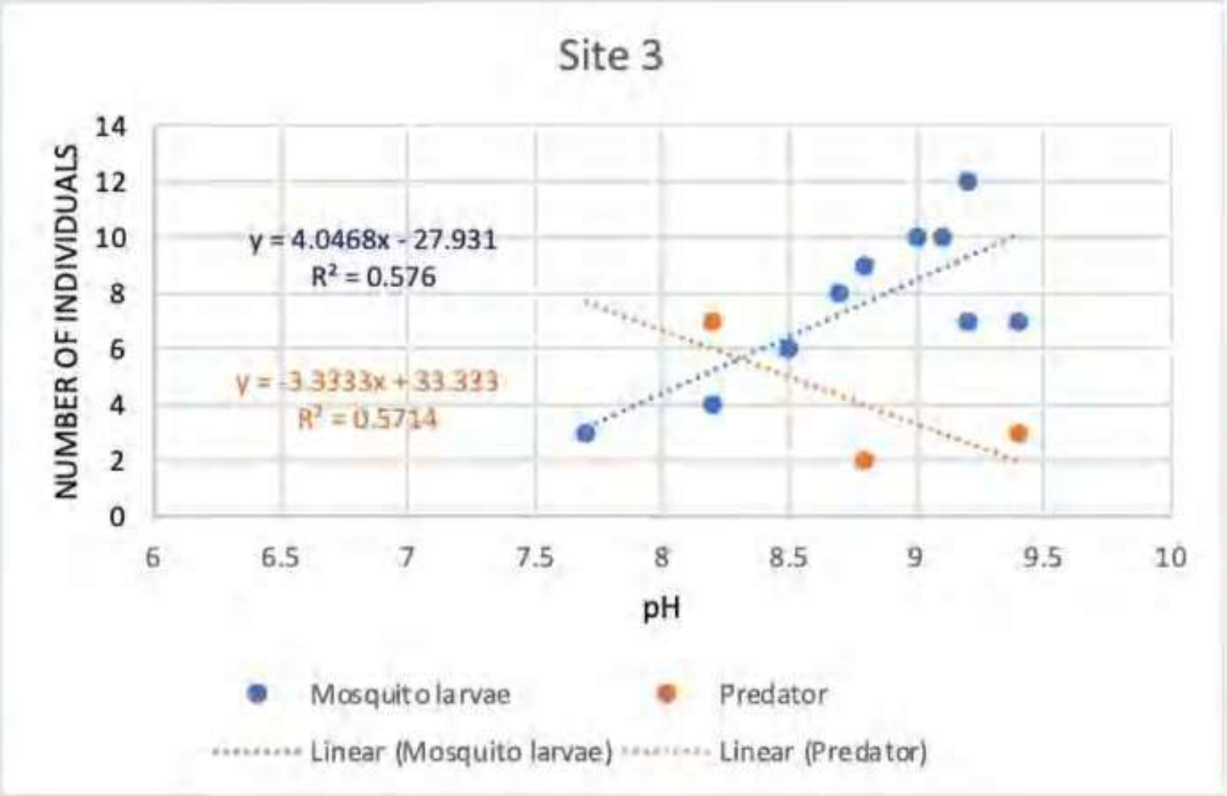

Conclusion

- The survey found that the distance from the dam affected the number of mosquito larvae and the actual number of predators.
- From the survey, mosquito larvae were found to be the most annoying at site 3.
- Surveys have found that the biggest predators are fish.
- From the survey it was found that site 1 had the most larvae.
- From the survey, Culex Mosquito's larvae were found to be the most at site 3.
- A survey found that the most commonly used containers are man-made.
- The survey found that most of the containers found did not have lids.

References

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Acknowledgements

- COE for Ecometic Walailak University
- Director of Chonprathanwittaya School
- Teachers and students of Chonprathanwittaya School
- Teachers and staffs of Walailak University
- Associate Professor Doctor Mullica Jaroensutasinee
- Associate Professor Doctor Krisanadej Jaroensutasinee

Made by

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Bhasakorn Addakornjira
Nereeras Chunphayak


Thank you