





MOSQUITO KEY BREEDING SITES AT BANG RONG BEACH AREAS , SUPALAI SCENIC BAY RESORT AREAS , BEACH IN FRONT OF THE HOTEL AREAS AND CORAL ISLAND AREAS AT PHUKET PROVINCE, THAILAND



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INTRODUCTION



- Mosquitoes are vectors of diseases 



Dengue fever
Aedes mosquitoes.



Zika fever
Aedes mosquitoes.



Lymphatic filariasis
Tiger mosquitoes



Malaria
Anopheles mosquitoes

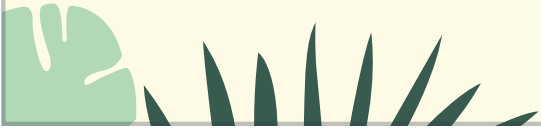




INTRODUCTION



- Mosquito is the most important insect, order: Diptera, suborder Nematocera, family Culicidae and transmit vector-borne diseases.
- Mosquito-borne diseases are important medical problems.
- For instance dengue hemorrhagic fever, chikungunya, malaria and filariasis are serious mosquito-borne diseases.





INTRODUCTION

Mosquitoes fever in Phuket province, Thailand
during 2016-2017

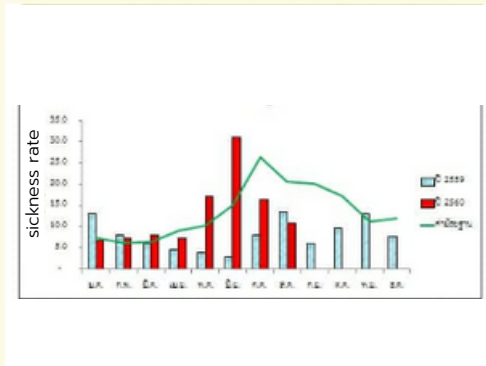


Fig.1 Number of dengue fever cases in Phuket between 2016-2017

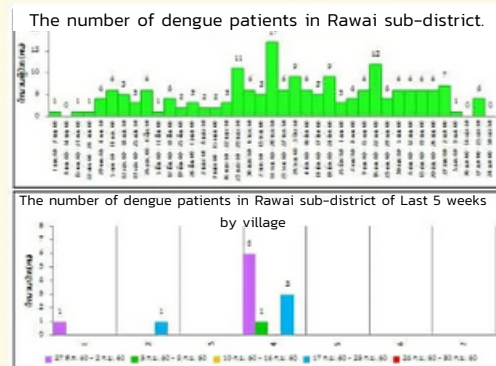



Fig.2 Number of malaria cases in Thailand during 2009-2018

The header features a light yellow background with a pinkish-red grassy area at the bottom. On the left, there are green tropical leaves, including a large monstera leaf. On the right, there is a small green bush with dark green leaves.

MATERIALS AND METHODS

STUDY SITES

4 Study sites in Phuket

- Coral Island
- Bang Rong Beach
- Supalai Scenic Bay Resort
- Beach in front of the hotel



Fig.3 World map

<https://mpics.mgonline.com/pics/images/558000002054801.JPG>



Fig.4 Thailand map

<https://www.pinterest.com/pin/77--107804922952523451/>



Fig.5 Coral Island map



Fig.6 Bang Rong Beach



Fig.8 Supalai Scenic Bay Resort map



Fig.9 Beach in front of the hotel

METHODS

1. Prepare all equipment for catching mosquito larvae.

- Plastic bag
- Fish net
- 70% alcohol
- plastic spoons
- clip on lens 60x
- rubber band and pen



2. Survey Bang Rong Beach areas, Supalai Scenic Bay Resort areas, beach in front of the hotel areas and Coral Island areas. →

Measure the amount of water found in the container.



→ for scooping mosquitoes

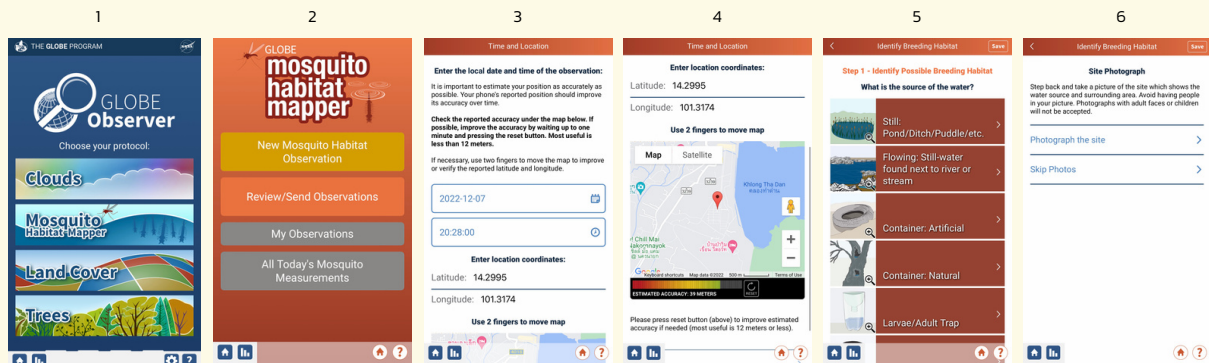


Put the scooped mosquitoes in a plastic bag.

MHM app to find latitude and longitude coordinates in the area where mosquito larvae are found.

METHODS

3. GLOBE Observer: mosquito habitat mapper app



1. Choose mosquito item

2. Select the New Mosquito of observation habitat.

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

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

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

Fig.10

METHODS

Bang Rong Beach areas, Supalai Scenic Bay Resort areas, beach in front of the hotel areas and Coral Island areas



Fig.11 West beach areas



Fig.12 Supalai Scenic Bay Resort areas



Fig.13 Beach in front of the hotel areas



Fig.14 Coral Island areas

METHODS

Man made / Natural Containers



Fig.15 Man made Containers



Fig.16 Natural Containers

METHODS

Metal / Plastic / Earthen Containers



Fig.17 Metal Containers



Fig.18 Plastic Containers



Fig.19 Earthen Containers

METHODS

Lid / Without Lid Containers



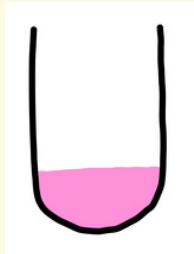
Fig.20 Containers with Lid



Fig.21 Containers without Lid

METHODS

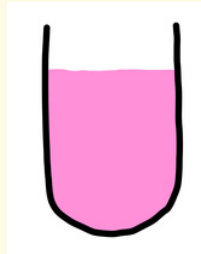
Water Levels (0-25%, 26-50%, 51-75%, 76-100%)



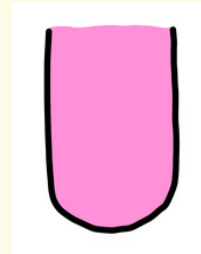
0-25%



26-50%



51-75%



76-100%

Fig.22 water levels

METHODS



Fig.23 Identifying different types of mosquitoes

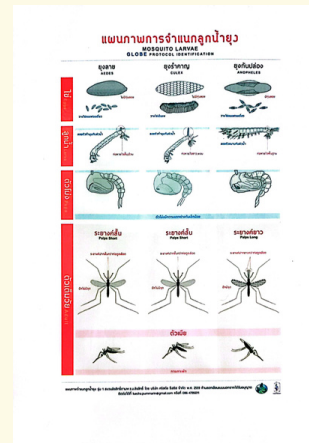


Fig.24 Identifying different types of mosquitoes

METHODS

Species of larvae mosquitoes

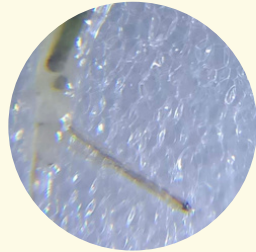



Fig.25 *Genus Culex*

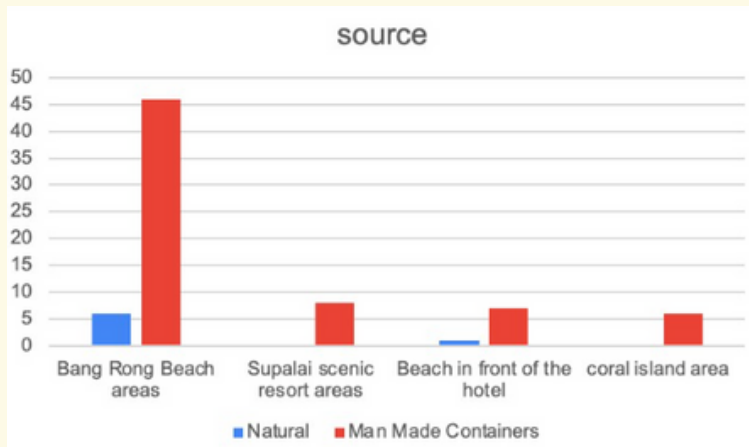


Fig.26 *Aedes albopictus*

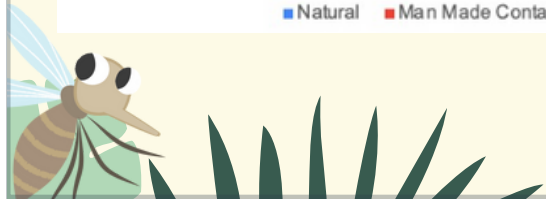


RESULTS AND DISCUSSION

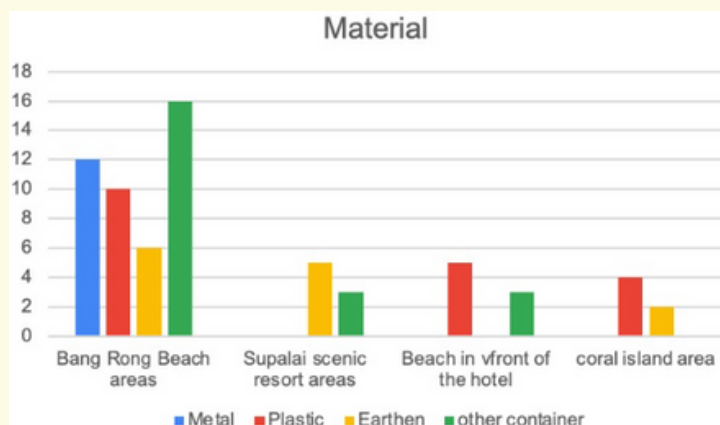
Natural /Man made Containers



- Most of the containers found were man made containers.
- Found the most containers at the Bang Rong Beach areas.



Metal/ Plastic /Earthen /Other Containers



- Other containers were mostly found at the Bang Rong Beach areas.
- Metal containers were only found at the Bang Rong Beach areas.
- At the Bang Rong Beach areas, we found all kinds of containers we studied.



Earthen Containers



Fig.27 Earthen Containers

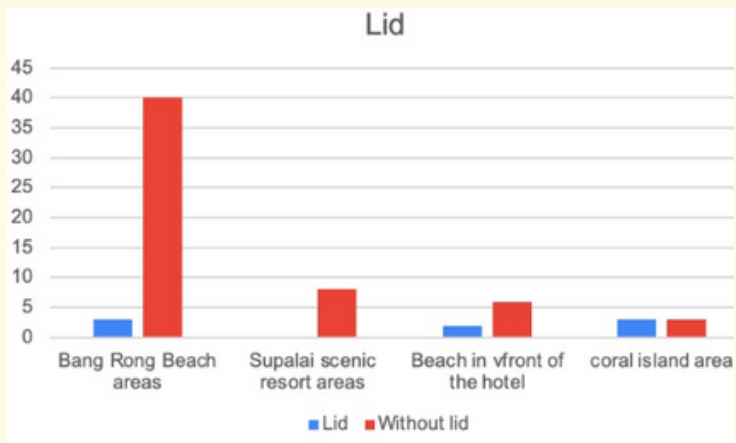
Other Containers



Fig.28 Other Containers



Lid / Without Lid Containers



- Found that there were more containers without lids than those with lids.
- Found the most containers at the Bang Rong Beach areas.



Containers with Lid



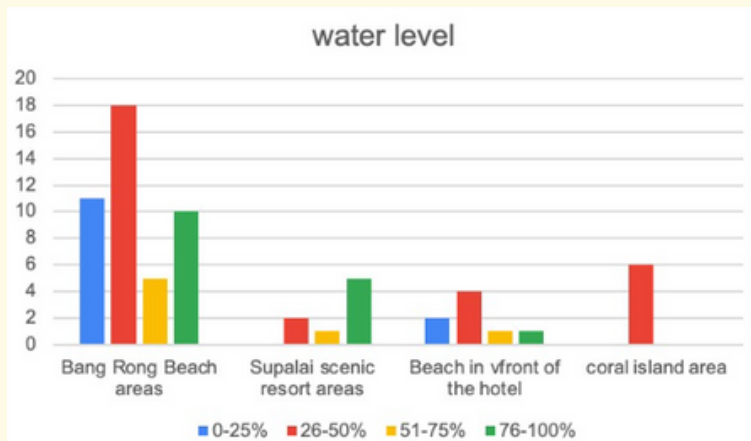
Fig.29 Containers with Lid

Containers without Lid



Fig.30 Containers without Lid

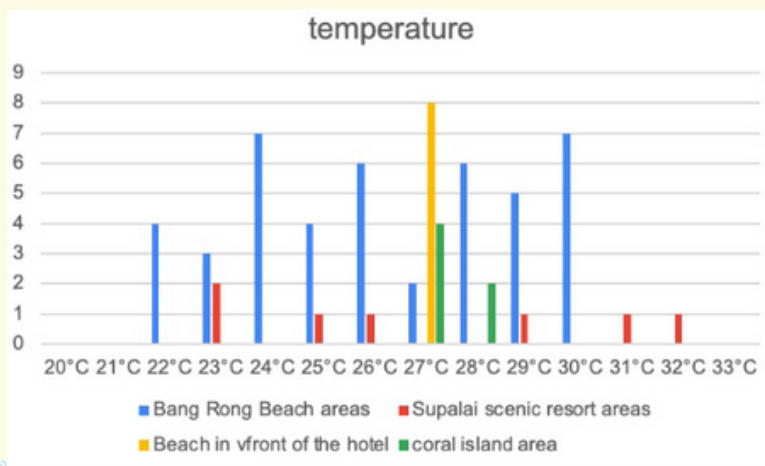
Water Levels (0-25%, 26-50%, 51-75%, 76-100%)



- Found that female mosquitoes tend to lay eggs in water content of 26-50% and 76-100%.
- Most of the containers with water content of 26-50% were found in the Bang Rong Beach areas.



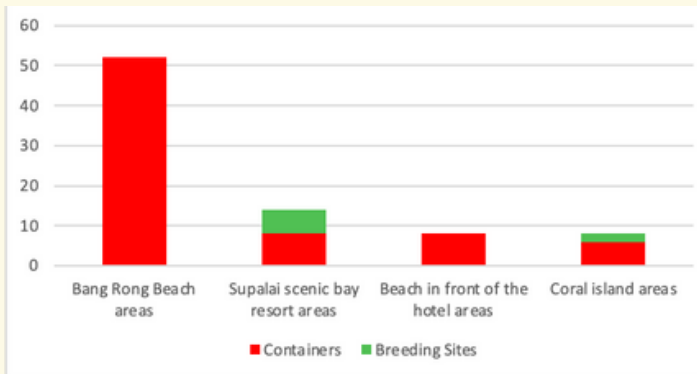
Water Temperature



- The coldest place studied was the Bang Rong Beach areas.
- The hottest place studied was the Supalai Scenic Bay Hotel area is plant pot saucer.



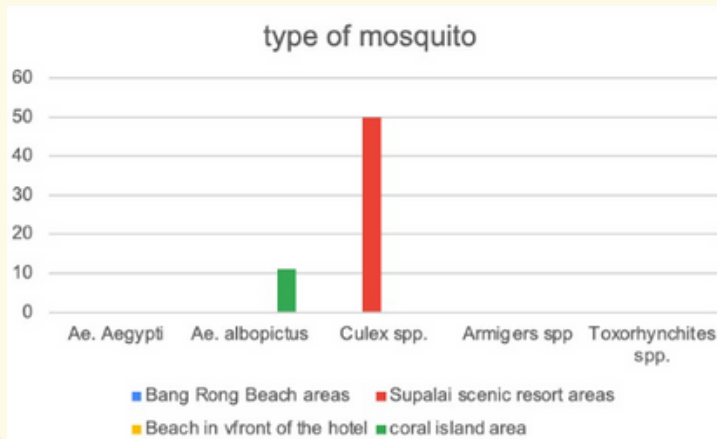
Containers , Breeding Sites



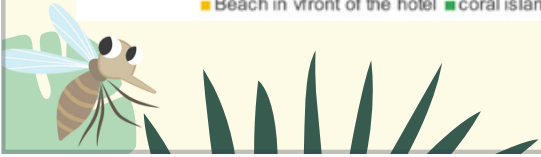
- From the survey, it was found that there were only 2 places where mosquito larvae were found, the Supalai Scenic Bay Hotel area, which was found only *Culex* and Coral island areas, which was found only *Aedes albopictus*.



Species of mosquitoes



- At the Supalai Scenic Bay Resort areas, only Culex type was found.
- At the Coral island areas, only Aedes albopictus type was found.





CONCLUSION



- Other containers were mostly found at the Bang Rong Beach areas.
- Most of the containers are man-made container
- Found that there were more containers without lids than those with lids.
- Most of the containers with water content of 26-50% were found in the Bang Rong Beach areas.
- At the Coral island, water temperature has the highest temperature.
- The largest number of containers (52 pieces) were found in Bang Rong Beach areas without mosquito larvae.
- The most common mosquito larvae are *Aedes albopictus*.





REFERENCE

Bangpakok Hospital 3. (23 august 2022) Get to know mosquitoes www.bangpakok3.com/care_blog/view/200

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