

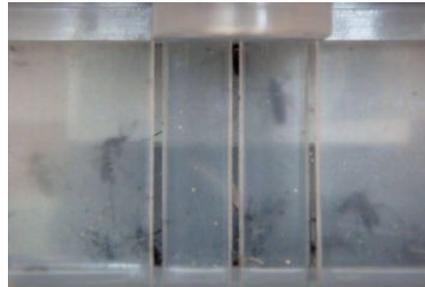
KATORIN (CONTAINER FOR CAPTURING MOSQUITO LARVAE)

Do not use electricity and insecticide, only fill rain water and put, exterminate wigglers continuously

EXTERMINATION OF MOSQUITOES AGAINST DENGUE FEVER

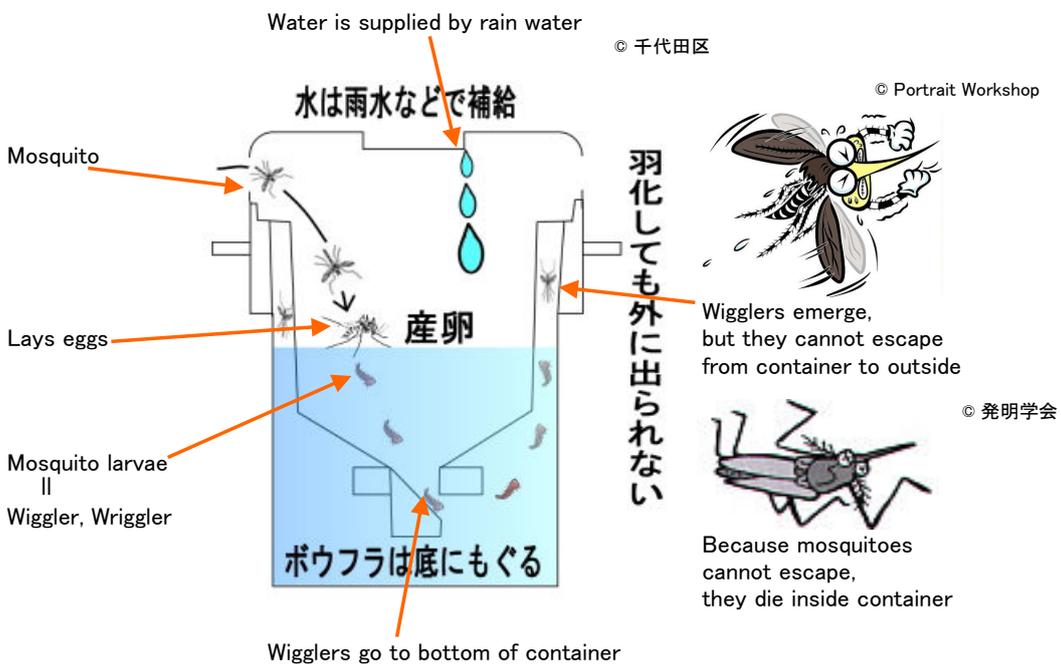
CAPTURE EFFECT

Target is *Aedes albopictus* (Asian tiger mosquito), *Aedes aegypti* (Yellow fever mosquito), etc



Mosquito larvae called wiggler or wriggler which occurred in 6 containers was summarized in 1 container

EXTERMINATION PRINCIPLE



Outline : Exterminate mosquitoes larva systematically.

System : Put rainwater in the container, and leave it.

Mosquitoes blow eggs in it

and the hatched larvae cannot escape from this container and are shut in,
which eventually exterminate the mosquitoes in the area.

Strength

- 1 Simple structure, and therefore difficult to be broken, easy to treat.
- 2 Continuous effect with only easy maintenance
- 3 Automatic water supply with rain water.
- 4 Long life and repeatedly used every year. No waste.
- 5 No expendable parts and no need for replacement, therefore, no cost.
- 6 No CO₂ emission, which has green house effect.
- 7 No electricity needed so can be placed anywhere, no electricity bills.
- 8 No chemical used, therefore, doesn't damage livestock and ecosystem.
No possibility of particular chemical resistance.

Weakness

- 1 Katorin only catches *Aedes albopictus* and *Aedes aegypti* carrying denque fever virus, which are active in a daytime, while cannot be effective towards *Anopheles*, a malaria-carrying mosquito, which are active in the night.
- 2 It takes some time to see if larvae have been caught or not even in their breeding season when mosquitoes are
- 3 Katorin's effect works slowly, gradually lowering the density of habitants of mosquitoes, therefore, it takes years for residents to see the outcome.
- 4 Katorin's container is made of plastic and it is rather formidable, however, it can break by an impact with strong force, and be degraded over time.
- 5 That extermination effect is long lasting with easy maintenance but not without.
- 6 Mosquitoes cannot get in and out from Katorin's container, but ants can.
So carnivorous ants do eat the dead mosquitoes (Imago).
As a result, the users may think that Katorin doesn't work.

Setting

- 1 To concentrate the egg laying on the container, a peripheral puddle is removed.
(empty can, toys, etc and anything that holds stagnant water.)
 - 2 Natural water (rain water, pond water) is preferable for successful effect. (Do not use tap water containing chlorine.)
 - 3 As for the location, the possibility invite mosquitoes, and where plants bushes are abundant,
and where wind and direct sunlight does not strike is preferable, and within 30cm above the ground.
 - 4 The dripping of the leaf is dropped to 'lid' in the central portion on the day of rain when setting it up.
 - 5 Set up the equipment when the season of mosquitoes begins laying cycle starts in about 2 weeks.
(Please change the location when you can not confirm the wriggler even if 3 weeks pass.)
 - 6 Capturing season (in case of Japan) is July and August especially when rainy days season comes to an end.
(Because the puddle in the outdoors is decreases, and the place that mosquito can be lay the eggs is limited.)
 - 7 At the ends of season, clean the equipments by washing with water,
And keep in house to avoid damage and use it again for the next summer season.
(There is a possibility of damaging it in a cold region when remaining putting it for the period of winter.)
- Do not use any bait like food (bread, sausage, etc) scraps to avoid stinky smell.
 - Always carry equipment from the bottom when it is filled water.
(Do not hold on the lid for this might fall and can cause damage.)
 - The equipment easily tumbles down by the wind or the animals or the human especially when water evaporates.
 - Tie it to something that will hold to avoid tumbling down.
 - The installation of two or more equipment is preferable for fast prevention of mosquito's multiplication.
 - Direct sunlight is not suitable for the egg laying and growth
because the water temperature rises and evaporation occurs.
 - Useful to keep records of location for purposes of correction and reference and maintenance.



Good setting example



- Place the equipment where the rain drops down from the leaf. directly to the lid of equipment.
- Place in sunny shade that without wind and can be hidden.
- Place in quiet suitable environment for the adult mosquito takes a rest and lay eggs for 2 to 3 days.
- Place the equipment where not near other puddle.



Bad setting example



- Do not place where large amount of rain water and garbage goes in.
 - Do not place where direct sunshine strikes because it is not suitable laying eggs.
 - Do not place where exterminator, insecticide, herbicide, etc, were sprayed.
 - Do not put where water from air conditioner drops.
- Avoid the contact of sunlight because development of green algae takes place especially when the equipment is stagnant for several weeks, always place the equipment in a shady area to avoid the obstruction during the reproduction cycle.

Maintenance

When the water of a container decreases if it does not rain



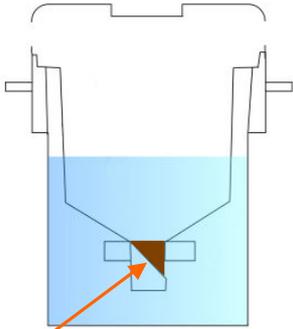
Water level is low

Supply rain water



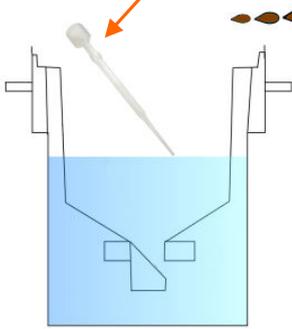
Water level is high

When a passage is closed with garbage



Garbage

Remove garbage ex. Plastic sput(syringe)



Garbage

Check once or twice a month to avoid blockage of passage with garbage (**Importance**)