



Mahidol University
Faculty of Tropical Medicine



Plant Extracts Strengths of the Department of Medical Entomology : an alimentary supply and bio- insecticide novel alternative



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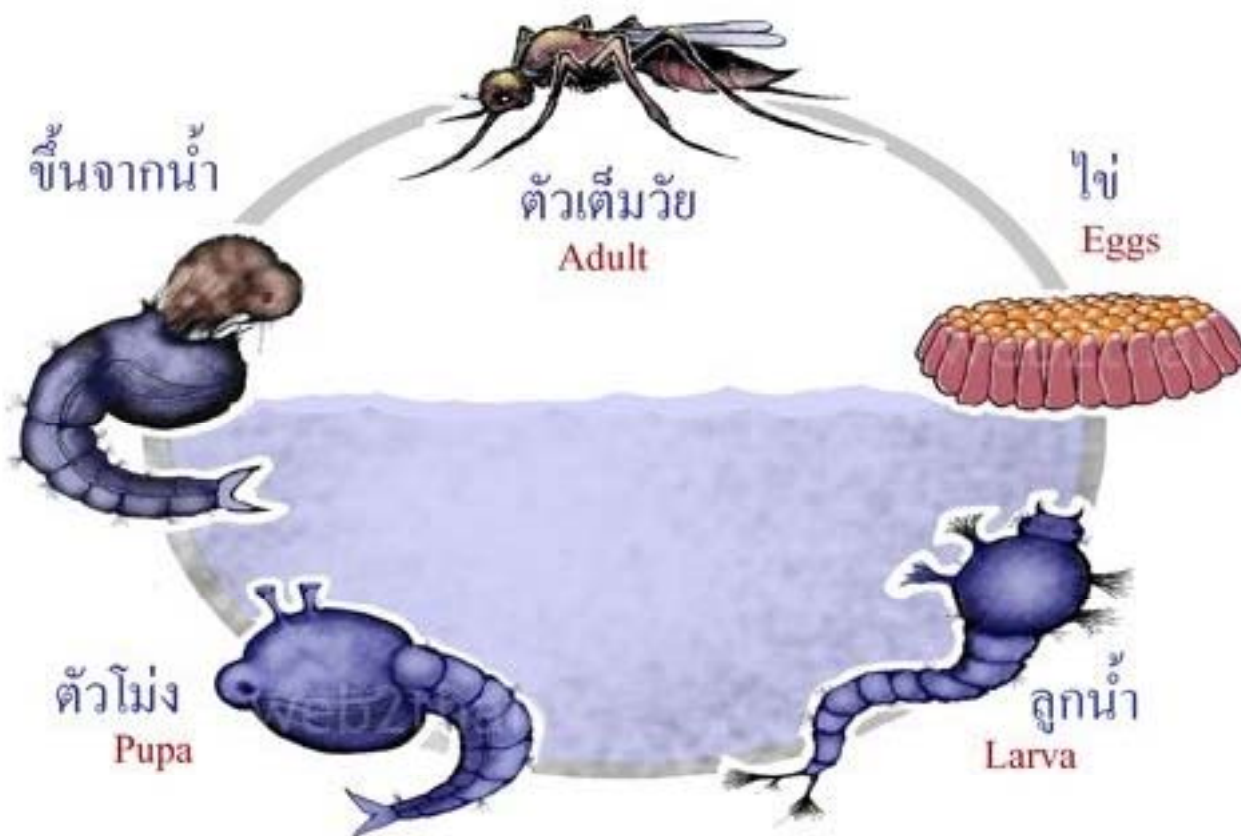
THAILAND

JITMM
December 13, 2013



วงจรชีวิตยุง

Mosquito life cycle





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Euphorbia antiquarum



In laboratory

Mosquitoes	Fresh latex of <i>Euphorbia antiquarian</i>
	LC ₅₀
<i>Culex quinquefasciatus</i>	0.25
<i>Anopheles dirus</i>	0.03
<i>Mansonia bonneae</i>	0.04
<i>Aedes aegypti</i>	0.83



Toxicity from latex of *Euphobia antiquarum*



Agave americana



MATERIALS AND METHODS



1. Growing *Artemisia annua* the age of this plant is 4-6 months can get flower



2. Collect *Litsea cubeba* (fruit) in July - September on the Mountain



3. Used Only the peel of Lich lime



4. Extract in the laboratory and field



5. Complete product in cream and balm



6. Tested in laboratory and field



RESULTS & DISCUSSION

Laboratory Results (Cream)

Mosquito spp.	Mean ±SD of duration (min) of complete repellency				Average Mean (min)
	Replicate 1	Replicate 2	Replicate 3	Replicate 4	
<i>Ae. Aegypti</i>	207 ±33 (n=10)	240 ±49 (n=10)	210 ±40 (n=10)	222 ±40 (n=10)	220 ±15
<i>An. dirus</i>	240 (n=5)	360 (n=5)			300

Control mosquitoes bite more than 5 in 1 minute

Field Result (Cream)

Study Site	Mosquito spp.	Average Mean (min)	Control
Faculty of Tropical Medicine	<i>Cx. quinquefasciatus</i>	156	24 – 46/h
Nonthaburi	<i>Cx. quinquefasciatus</i>	164	32 – 39/h
Suwanaphum airport	<i>Cx. quinquefasciatus</i>	180	27 – 40/h
Narathiwat province	<i>Ma. boneae</i>	134.5	20 – 50/h



Laboratory Results (Balm)

Mosquito spp.	Mean -SD of duration (min) of complete repellency				Average mean (min)
	Replicate 1	Replicate 2	Replicate 3	Replicate 4	
<i>Ae. Aegypti</i>	189 ±32 (n=10)	192 ±41 (n=10)	200 ±52 (n=10)	213 ±53 (n=10)	209 ±17
<i>An. dirus</i>	390 ±82 (n=5)	438 ±59 (n=5)			> 5

Control mosquitoes bite more than 5 in 1 minute

Field Result (Balm)

Study Site	Mosquito spp.	Average Mean (min)	Control
Faculty of Tropical Medicine	<i>Cx. quinquefasciatus</i>	190	30 – 50/h
Nonthaburi	<i>Cx. quinquefasciatus</i>	184	35 – 45/h
Suwanaphum airport	<i>Cx. quinquefasciatus</i>	197	30 – 55/h
Narathiwat province	<i>Ma. boneae</i>	204	20 – 50/h



Mosquito repellent products in Balm and Cream form



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**Component analysis of
Perilla frutescens L.**

Common name	Lipid name	% of total fatty acid	gram
Caprylic acid	C8: 0	0.1	0.28
Palmitic acid	C16: 0	8.7	6.36
Plmitoleic acid	C16: 1	0.1	0.12
Stearic acid	C18: 0	2.9	2.25
Oleic acid	C18: 1	13.1	9.50
Linoleic acid	C18: 2, n-6	20.9	15.05
Gamma-Linolenic acid	C18: 3, n-6	54.3	38.89

Common name	Lipid name	% of total fatty acid	gram
Palmitic acid	C16: 0	9.4	7.57
Palmitoleic acid	C16: 0	0.1	0.26
Stearic acid	C16: 0	5.3	4.37
Oleic acid	C18: 1	40.4	32.16
Linoleic acid	C18: 2, n-6	43.6	34.66
Gamma-Linolenic acid	C18: 3, n-6	0.4	0.47
Linolenic acid	C18: 3, n-3	0.2	0.30
Eicosenoic acid	C20 : 1	0.7	0.71

**Component analysis of
Sesamum indicum L.**



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คณะเวชศาสตร์เขตร้อน มหาวิทยาลัยมหิดล



Herbs product in Department of Medical Entomology and be come to be Otop



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THANK YOU

