

Additional file 4: Table S4: Percentage mortality of females *Ae. albopictus* at 24h post-treatment against several insecticides from carbamate, organophosphate and pyrethroid classes, together with 4% PBO as a synergist for pyrethroid insecticides.

State	Sample	% Mortality $\pm$ SD					
		Adulticides					
		Carbamate	Organophosphate	Pyrethroid		Synergist	
		0.1% Propoxur	0.25% Pirimiphos methyl	0.25% Permethrin	0.03% Deltamethrin	4% PBO + 0.25% Permethrin	4% PBO + 0.03% Deltamethrin
Penang	USM VCRU	100.00 $\pm$ 0.00 [S] (300)	100.00 $\pm$ 0.00 [S] (300)	100.00 $\pm$ 0.00 [S] (300)	100.00 $\pm$ 0.00 [S] (300)	NA	NA
	SA	19.33 $\pm$ 2.25 [R] (300)	94.33 $\pm$ 1.08 [P] (300)	79.00 $\pm$ 4.22 [R] (300)	96.67 $\pm$ 0.99 [P] (300)	99.00 $\pm$ 0.46 (200)	100.00 $\pm$ 0.00 (200)
	BP	13.00 $\pm$ 4.86 [R] (200)	92.33 $\pm$ 0.99 [P] (300)	93.00 $\pm$ 1.60 [P] (300)	90.00 $\pm$ 2.11 [P] (300)	99.50 $\pm$ 0.35 (200)	100.00 $\pm$ 0.00 (200)
Perlis	KB	2.00 $\pm$ 1.07 [R] (200)	81.33 $\pm$ 3.39 [R] (300)	34.00 $\pm$ 2.02 [R] (300)	3.67 $\pm$ 1.24 [R] (300)	91.50 $\pm$ 2.17 (200)	12.50 $\pm$ 2.80 (200)
	KTt	9.50 $\pm$ 1.60 [R] (200)	70.00 $\pm$ 4.10 [R] (300)	48.67 $\pm$ 6.07 [R] (300)	10.50 $\pm$ 2.83 [R] (200)	97.00 $\pm$ 0.71 (200)	19.00 $\pm$ 1.83 (200)

n = 200-300. The sample size was not standardized due to insufficient number of F1 mosquito samples. Percentage mortality after 24 hours = % $\pm$ SD; [S] = susceptible (98-100% mortality), [P] = possible resistance/incipient resistance, [R] = confirmed resistance (< 90% mortality), as determined by WHO (2016).

Additional file 4: Table S5: Knockdown rates of *Ae. albopictus* in Penang and Perlis, Malaysia against pyrethroid adulticides.

State	Sample	Sample size (n)	Adulticides							
			Pyrethroid							
			0.25% Permethrin				0.03% Deltamethrin			
			KdT ₅₀ (min) (95% CL)	RR ₅₀ , folds	KdT ₉₅ (min) (95% CL)	RR ₉₅ , folds	KdT ₅₀ (min) (95% CL)	RR ₅₀ , folds	KdT ₉₅ (min) (95% CL)	RR ₉₅ , folds
Penang	USM VCRU	300	31.54 (30.19-32.88) ^a	1	56.68 (52.29-63.02) ^a	1	21.19 (20.71-21.68) ^a	1	33.28 (31.86-35.04) ^a	1
	SA	300	42.73 (41.67-43.85) ^b	1.35	94.06 (87.84-101.87) ^b	1.66	15.57 (12.99-18.13) ^b	0.73	30.65 (24.31-54.00) ^a	0.92
	BP	300	35.91 (35.07-36.74) ^c	1.14	72.89 (69.38-77.10) ^c	1.29	16.86 (15.36-18.41) ^b	0.79	28.22 (24.60-35.79) ^a	0.85
Perlis	KB	300	95.19 (81.91-121.19) ^d	3.02	378.38 (250.02-744.93) ^d	6.68	NA	NA	NA	NA
	KT	300	73.02 (67.62-81.13) ^e	2.32	199.45 (159.78-273.48) ^e	3.52	768.86 (ND)	NA	7070.70 (ND)	NA

CL, confidence limit; ^{a,b,c,d,e} Statistically significant using overlapping of confidence interval test; KdT, knockdown time; NA, not available; ND, not determined by probit analysis because knockdown rate <5%, indicating high resistance. RR values of <5 = low resistance, 5–10 = medium resistance and >10 = high resistance