Table S1. Descriptions, values, and references for the model parameters. * temperature-dependent parameters.

Parameter	Description	Value	Reference
Human			
μ_h	Birth rate of humans	0.0081	[1]
δ_h	Death rate of humans	0.0052	[1]
p	Probability of having short latency period	0.4295	Estimated
τ_s	Average short latency period	14 days	[2]
τ_l	Average long latency period	314 days	[2]
τ_r	Average latency period for relapse	207 days	[2]
γ_h	Treatment starting rate = 1/Average infectious period	1/4 1/days	[2]
ϱ_h	Recovery rate = 1/Average duration of drug action	1/35 1/days	[3]
q	Probability of relapse	0.04	[2, 4]
Mosquito			
k_a	Vector carrying capacity	$165 \times N_h$	[5, 6]
μ_a*	Egg deposition rate per adult mosquito $\max\{-0.153T^2 + 8.61T - 97.7, 0\}$ T: temperature(°C)		[5-7]
δ_a*	Death rate of immature mosquitoes $\min\{0.002\ exp((\frac{T-23}{6.05})^2), 1\}$		[5, 6, 8]
μ_v*	Maturation rate $\begin{cases} \frac{e(T)p_E(R)p_L(T,R)p_P(R)}{\tau_{EA}(T)} & 16.5 \le T \le 35.6 \\ 0 & \text{Otherwise} \end{cases}$ $e(T) = \frac{f(T)}{\delta_v(T)}$: Lifetime number of eggs laid by adult mosquitoes.		[5, 6, 9]

	- $f(T) = -0.153T^2 + 8.61T - 97.7$: Total number of eggs laid per day. - $1/\delta_v(T)$: Average adult mosquito lifespan. - $p_E(R) = \frac{3.6(R_L-R)}{R_L^2}$: Daily survival probability of eggs. R and R_L denote rainfall (mm) and rainfall threshold (mm), and fixed to 3mm and 76mm, respectively. - $p_L(T,R) = exp\{-0.00554T + 0.06737\}\frac{R(R_L-R)}{R_L^2}$: Daily survival probability of larvae. - $p_P(R) = \frac{3R(R_L-R)}{R_L^2}$: Daily survival probability of pupae. - $\tau_{EA}(T) = 1/(-0.00094T^2 + 0.049T - 0.552)$: Total development time from egg to adult mosquito.		
δ_v*	Death rate of adult mosquitoes $\begin{cases} 1 & T \le -4 \\ -\frac{29}{570}T + \frac{227}{259} & -4 < T \le 15 \\ \frac{1}{30} & 15 < T \le 32 \\ \frac{29}{570}T - \frac{303}{190} & 32 < T \end{cases}$		[2, 5-7]
ν_v	Progression rate of mosquitoes to the infectious state = 1/Average latency period of mosquitoes	1/10 1/days	[2, 10]
Transmission			
λ_h*	Force of infection from mosquitoes to humans $\lambda_h(T) = b_h(T)\beta_{hv}\frac{I_v}{N_v} = b(T)\beta_{hv}\frac{I_v}{N_h}$		[11]
λ_v*	Force of infection from humans to mosquitoes $\lambda_v(T) = b_v(T)\beta_{vh}\frac{I_h}{N_h} = b(T)\beta_{vh}\frac{I_h}{N_h}$		[11]
b_h*	Biting rate for humans is defined as the number of mosquito bites per human per unit time $b_h(T) = b(T) \times \frac{N_v}{N_h}$ $= \begin{cases} 0.000203T(T-11.7)\sqrt{42.3-T} \times \frac{N_v}{N_h} & T \ge 0 \\ 0 & T < 0 \end{cases}$		[5-7, 11]
b_v*	Biting rate for mosquitoes refers to the number of human bites for one mosquito per unit time $b_h(T) = b(T)$ $= \begin{cases} 0.000203T(T-11.7)\sqrt{42.3-T} & T \ge 0 \\ 0 & T < 0 \end{cases}$		[5-7, 11]
β_{hv}	Probability of transmission of infection from an infectious mosquito to a susceptible human	0.0979	Estimated
β_{vh}	Probability of transmission of infection from an infectious human to	0.03	Estimat

	a susceptible mosquito	55	ed