7.3.13 *Chilo partellus* (Ong'amo et al.)

1. Development Time

Stage: Eggs Model: logit Slope: 18.51	Stage: Larvae Model: logit Slope: 9.09	Stage: Pupae Model: cloglog Slope: 8.14	Stage: Female Model: cloglog Slope: 3.3	Stage: Male Model: cloglog Slope: 2.74

2. Development Rate

Stage: Eggs
Model 34: Hilbert
Parameters: Tb=5.193 Tmax=33.395 d=30.546 Y=0.431 v=3.657
Formula: $y \sim b*(x - Tb)^2/((x - Tb) + d^2) - e^{-(Tmax-(x-Tb)/v)}$

Stage: Larvae
Model 54: Logan 5
Parameters: alph=0.114 k=174.678 b=0.191 Tmax=39.853 Dt=6.918
Formula: $y \sim alph*(1/(1 + k*e^{-(b*x)}) - e^{-(Tmax-x)/Dt})$

Stage: Pupae
Model 1: SharpeDeMichelle 1
Parameters: p=0.069 To=293.674 Tl=284.84 Th=305.748 Ha=21364.331 Hl=-76040.009
Hh=54911.646
Formula: $y \sim (p*(x/(To))*e^{(Ha/1.987)*((1/To)-(1/x))})/(1+e^{(Hl/1.987)*((1/Tl)-(1/x))}+e^{(Hh/1.987)*((1/Th)-(1/x))})$

3. Senescence

Stage: Female Model 51: Stinner 4 Parameters: c1=2.761 c2=99.72 k1=-0.184 k2=0.192 To=33.407 Formula: $y \sim c1/(1+e^{(k1+k2*x)}+c2/(1+e^{(k1+k2*(2*To-x))}))$	Stage: Male Model 51: Stinner 4 Parameters: c1=1.471 c2=121.714 k1=-1.693 k2=0.224 To=35.008 Formula: $y \sim c1/(1+e^{(k1+k2*x)}+c2/(1+e^{(k1+k2*(2*To-x))}))$

4. Mortality

Stage: Eggs
Model 11: Polynomial 1
Parameters: b1=3.447 b2=-0.172 b3=0 d=3.225
Formula: $y \sim b1 + b2*x + b3*x^d$

Stage: Larvae
Model 12: Polynomial 2
Parameters: b1=2.058 b2=-0.282 b3=0.006
Formula: $y \sim e^{(b1 + b2*x + b3*x^2)}$

Stage: Pupae
Model 12: Polynomial 2
Parameters: b1=16.125 b2=-1.538 b3=0.03
Formula: $y \sim e^{(b1 + b2*x + b3*x^2)}$

5. Total Oviposition

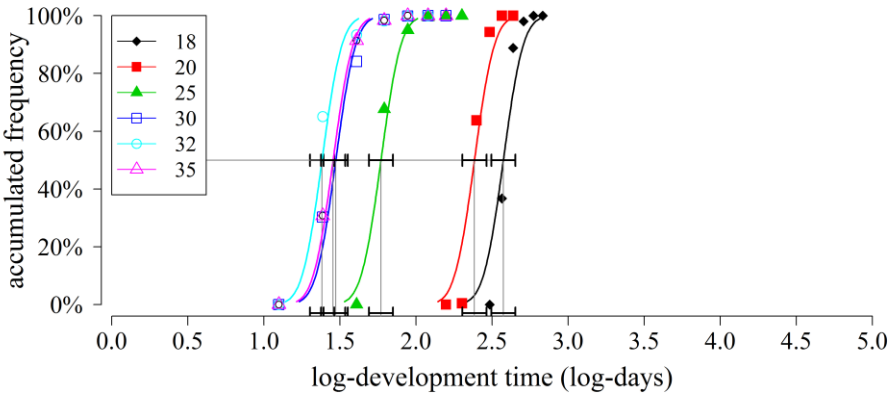
Stage: Female
Model 14: Polynomial 4
Parameters: b1=-33.472 b2=-1.613 b3=15.94
Formula: $y \sim e^{(b1 + b2*x + b3*sqrt(x))}$

6. Relative Oviposition

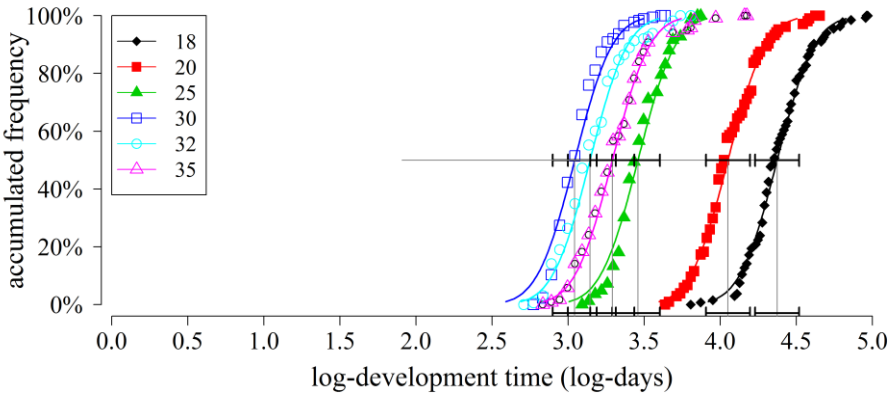
Stage: Female Model 2: Gamma Parameters: a=3.488 b=9.583 Formula: y ~ pgamma(x, a, b)

7. Development Time

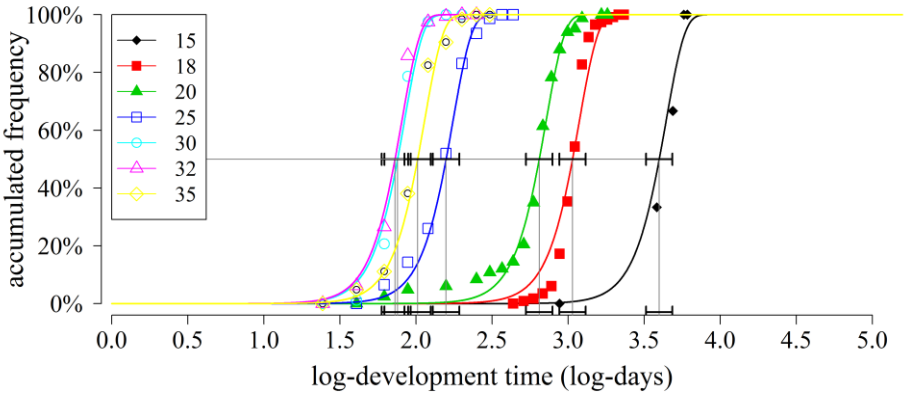
Eggs



Larvae

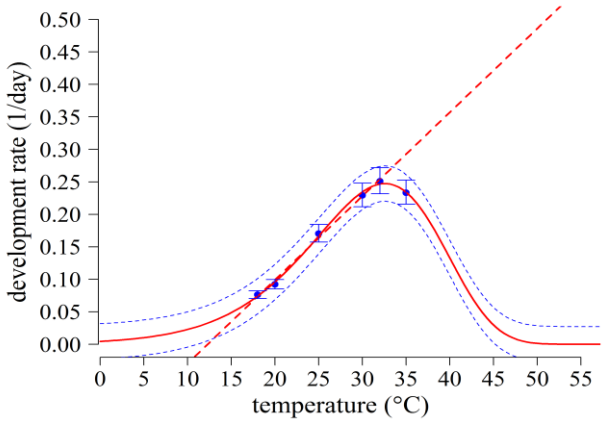


Pupae

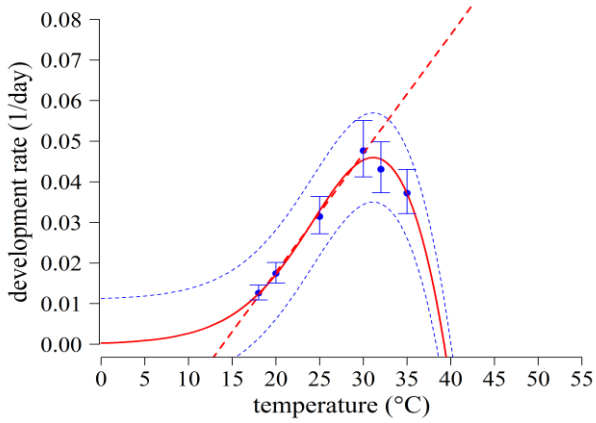


8. Development Rate

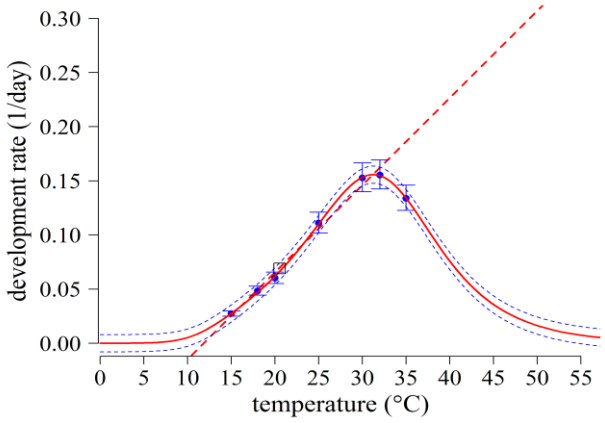
Eggs



Larvae

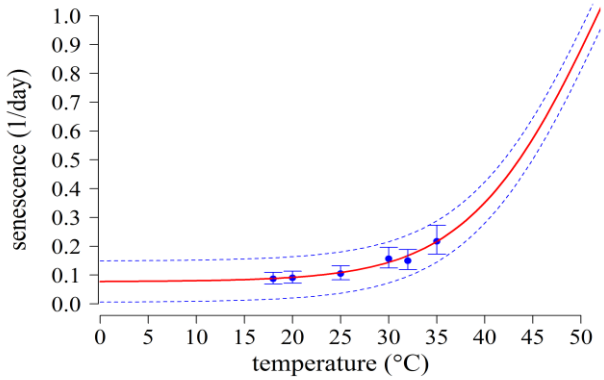


Pupae

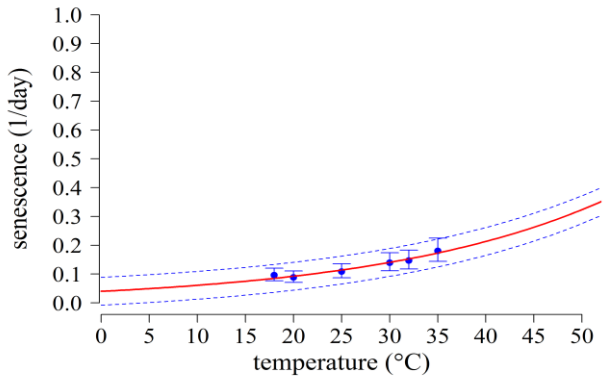


9. Senescence

Female

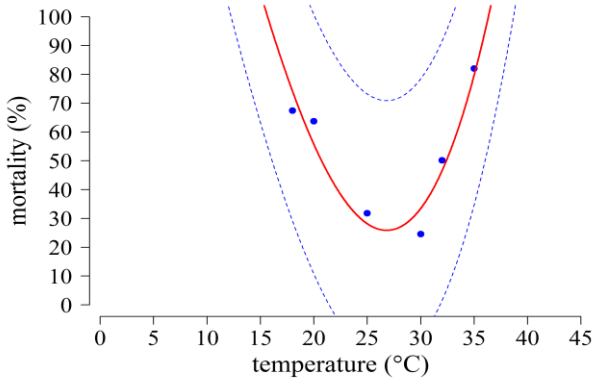


Male

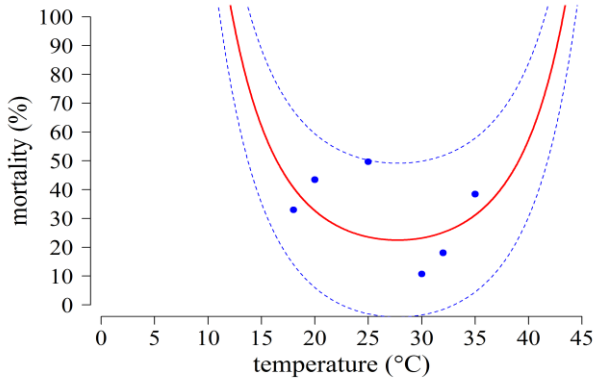


10. Mortality

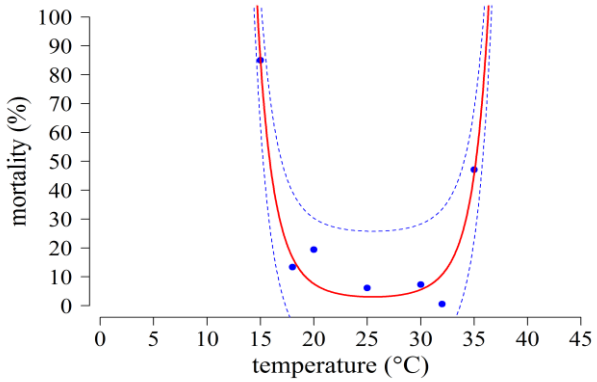
Eggs



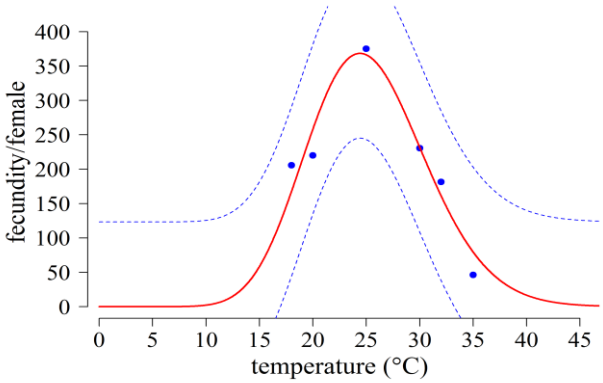
Larvae

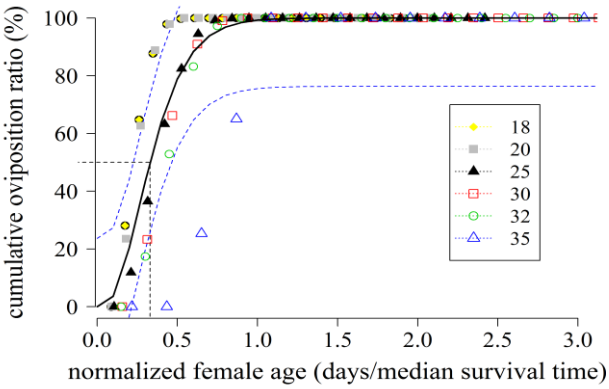


Pupae



11. Total and Relative Oviposition





12. Estimated life table parameters using deterministic simulation