

### 7.3.7 *Bemisia tabacii* (Gamarra et al.)

#### 1. Development Time

Stage: Eggs Model: logit Slope: 18.88	Stage: Nymphs Model: logit Slope: 6.01	Stage: Pupae Model: logit Slope: 5.69	Stage: Female Model: cloglog Slope: 1.98	Stage: Male Model: cloglog Slope: 1.58
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#### 2. Development Rate

<p>Stage: Eggs Model 26: Tb Model Parameters: <math>s_y=0,008</math> <math>b=0,307</math> <math>T_b=3,212</math> <math>DT_b=5,153</math> Formula: <math>y \sim s_y * e^{(b*(x-T_b) - e^{b*(x-T_b)/DT_b})}</math></p>
<p>Stage: Nymphs Model 26: Tb Model Parameters: <math>s_y=0,385</math> <math>b=0,199</math> <math>T_b=30,001</math> <math>DT_b=0,509</math> Formula: <math>y \sim s_y * e^{(b*(x-T_b) - e^{b*(x-T_b)/DT_b})}</math></p>
<p>Stage: Pupae Model 16: Deva 2 Parameters: <math>b_1=0,446</math> <math>b_2=-186,121</math> <math>b_3=33,792</math> <math>b_4=10,962</math> <math>b_5=0,072</math> Formula: <math>y \sim b_1 * (10^{-v}) * (1 - b_5 + b_5 * v^{-v})</math> <math>v = (u + e^{b_4 * u}) / c_2</math> <math>u = ((x + b_3) / (b_3 - b_2)) - c_1</math> <math>c_1 = 1 / (1 + 0.28 * b_4 + 0.72 * \ln(1 + b_4))</math> <math>c_2 = (1 + b_4) / (1 + 1.5 * b_4 + 0.39 * b_4^2)</math></p>

#### 3. Senescence

<p>Stage: Female Model 46: Janish 1 Parameters: <math>D_{min}=0,2</math> <math>T_{opt}=70,404</math> <math>K=0,127</math> Formula: <math>y \sim 2 / (D_{min} * (e^{K*(x-T_{opt})} + e^{(-K)*(x-T_{opt})}))</math></p>
<p>Stage: Male Model 46: Janish 1 Parameters: <math>D_{min}=0,173</math> <math>T_{opt}=72,825</math> <math>K=0,118</math> Formula: <math>y \sim 2 / (D_{min} * (e^{K*(x-T_{opt})} + e^{(-K)*(x-T_{opt})}))</math></p>

#### 4. Mortality

Stage: Eggs

Model 26: Wang 1

Parameters: Topt=23,684 B=2,44 H=0,011

Formula:  $y \sim 1 - 1 / (e^{(1+e^{-(x-T_{opt})/B})} + (1+e^{-(T_{opt}-x)/B})^H)$

Stage: Nymphs

Model 27: Wang 2

Parameters: Tl=19,301 Th=29,299 B=2,101 H=0,136

Formula:  $y \sim 1 - 1 / (e^{(1+e^{-(x-Tl)/B})} + (1+e^{-(Th-x)/B})^H)$

Stage: Pupae

Model 27: Wang 2

Parameters: Tl=20,515 Th=28,649 B=2,265 H=0,125

Formula:  $y \sim 1 - 1 / (e^{(1+e^{-(x-Tl)/B})} + (1+e^{-(Th-x)/B})^H)$

#### 5. Total Oviposition

Stage: Female

Model 17: Polynomial 7

Parameters: b1=-36,314 b2=0,882 b3=189,447 b4=-7498,279 b5=0

Formula:  $y \sim 1 - b4 / (1 + b5 * e^{(b1 + b2 * x + b3 * (1/\sqrt{x}))})$

#### 6. Relative Oviposition

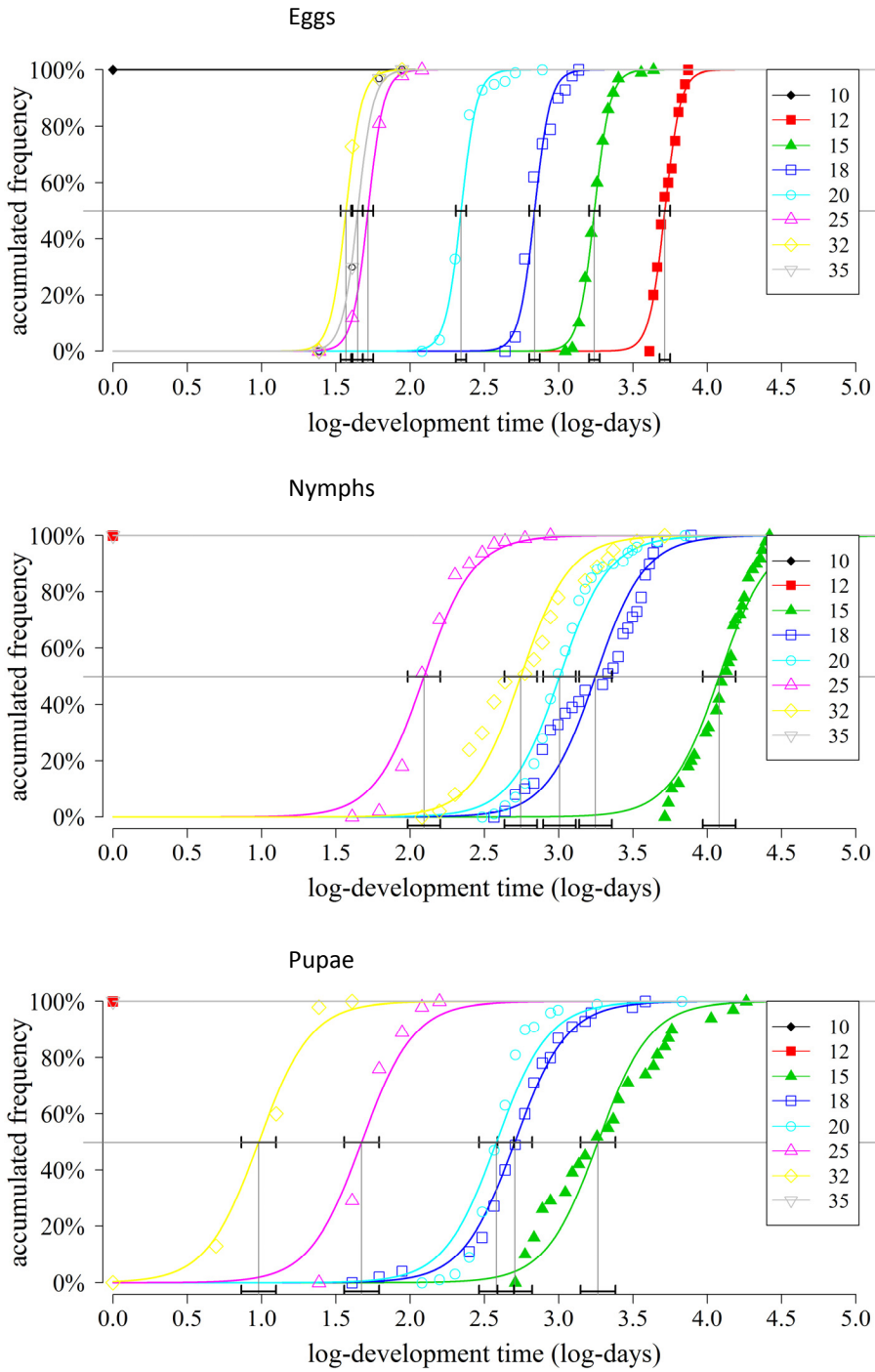
Stage: Female

Model 2: Gamma

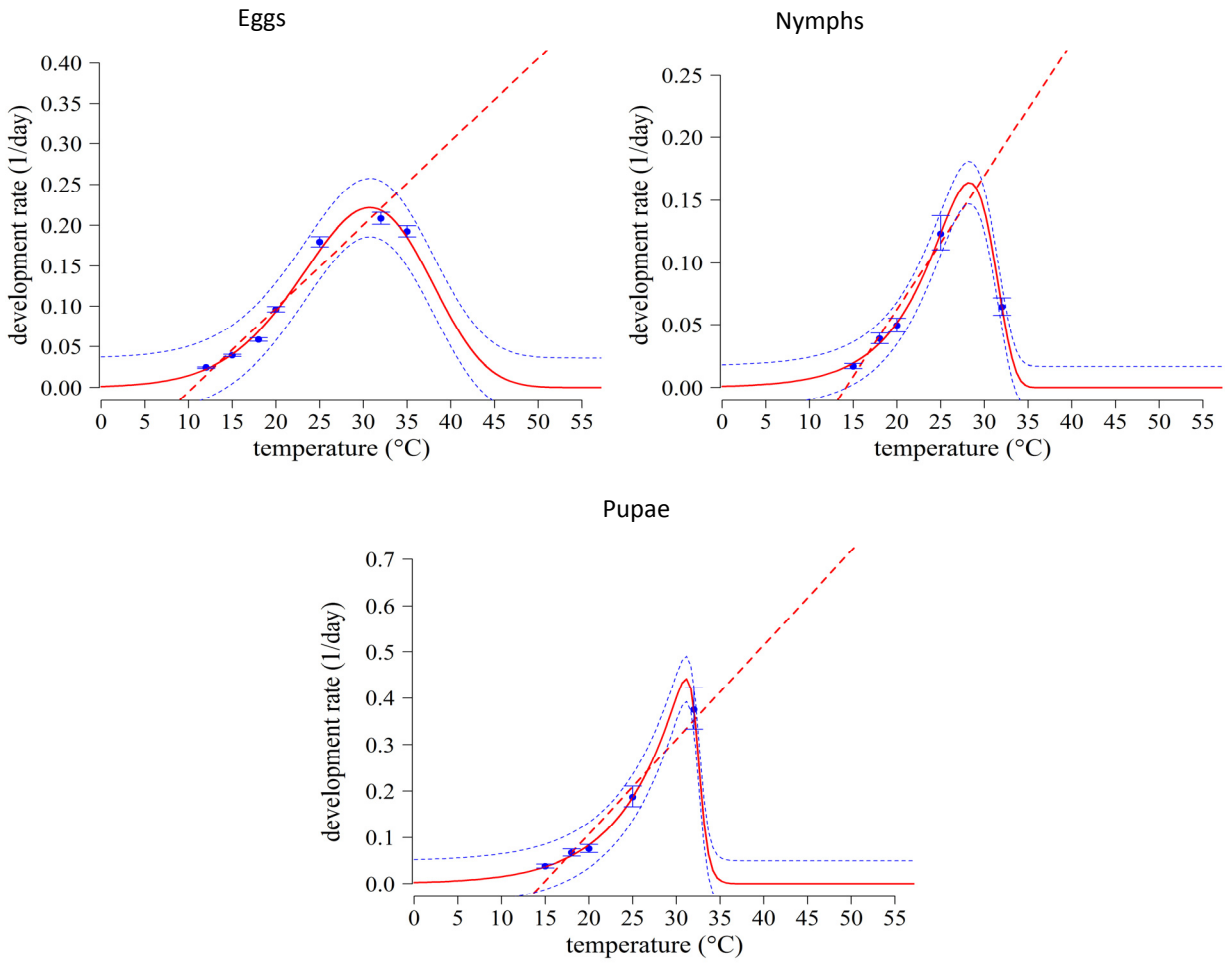
Parameters: a=1,862 b=2,683

Formula:  $y \sim \text{pgamma}(x, a, b)$

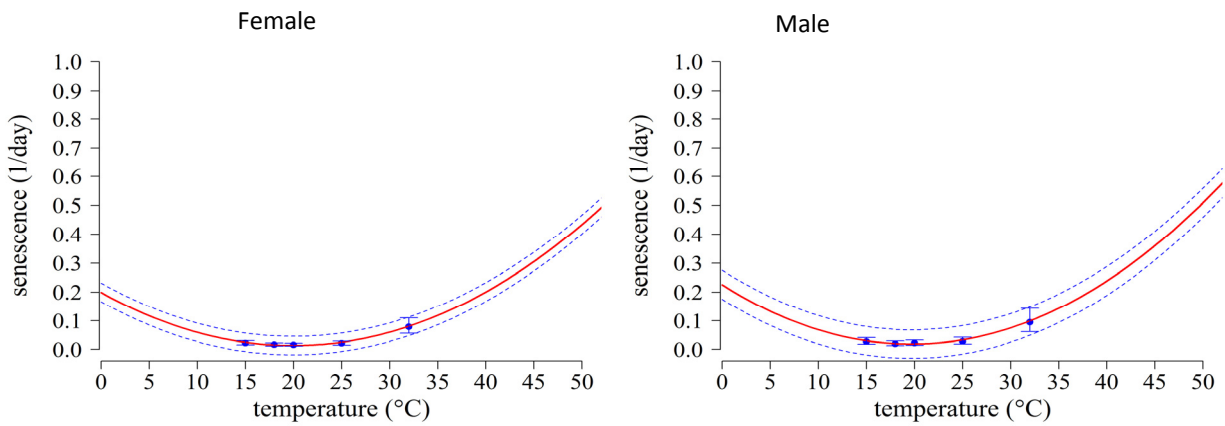
## 7. Development Time



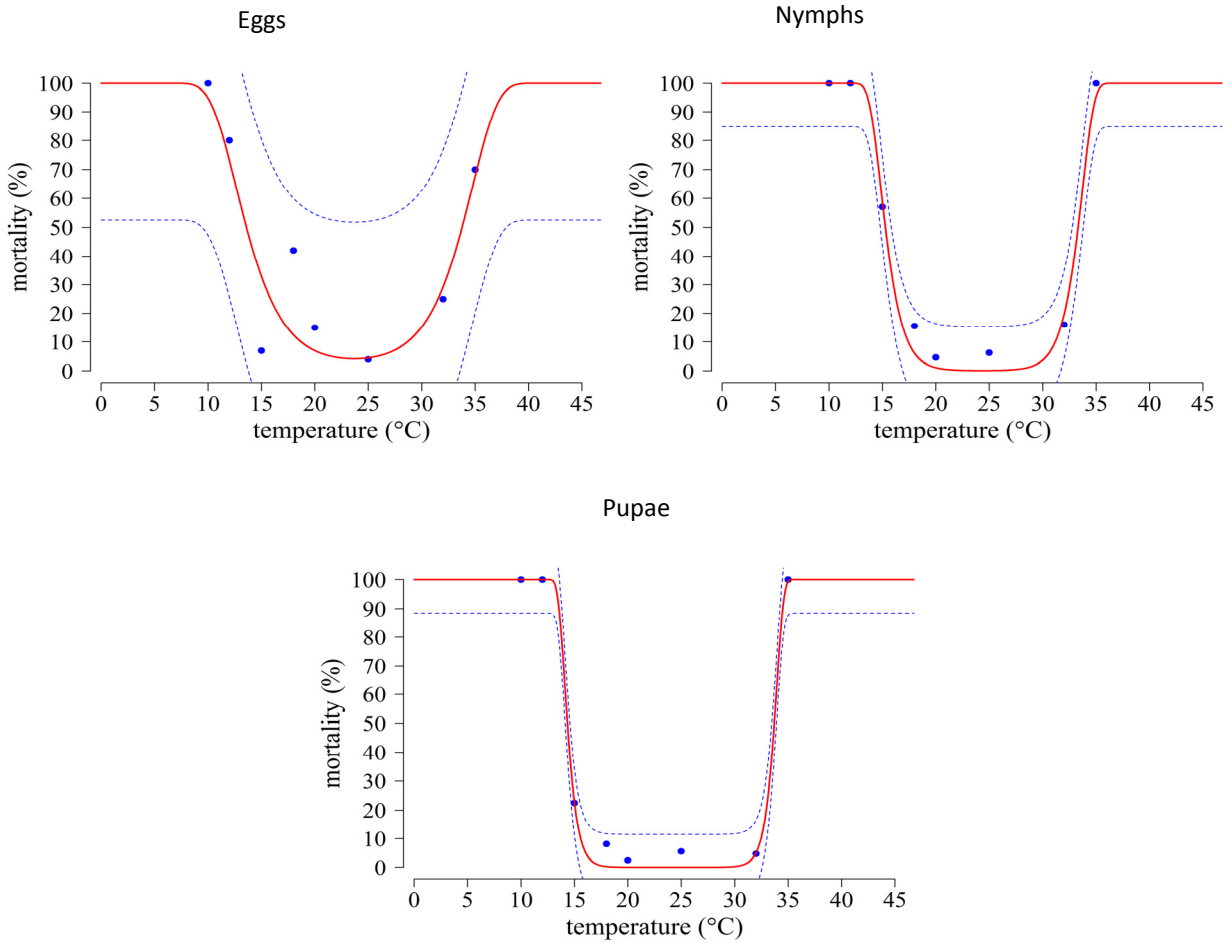
## 8. Development Rate



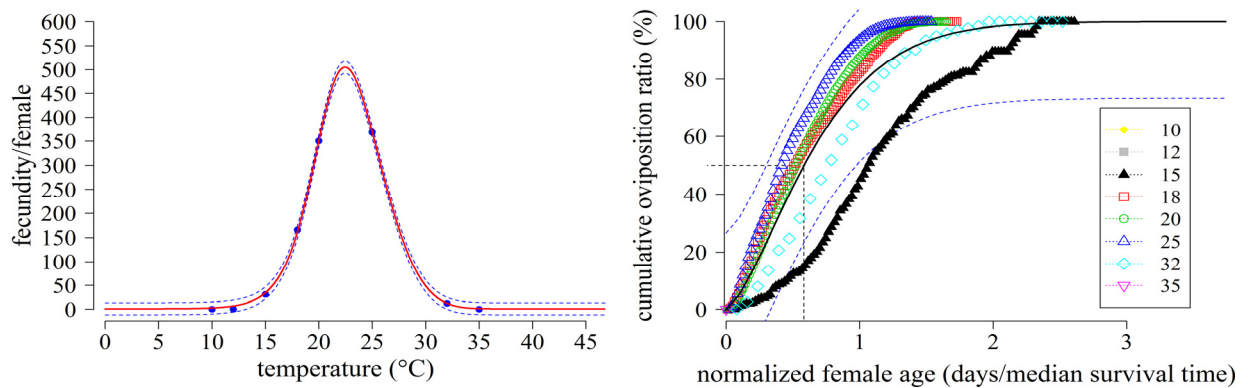
## 9. Senescence



## 10. Mortality



## 11. Total and Relative Oviposition



## 12. Estimated life table parameters using deterministic simulation

