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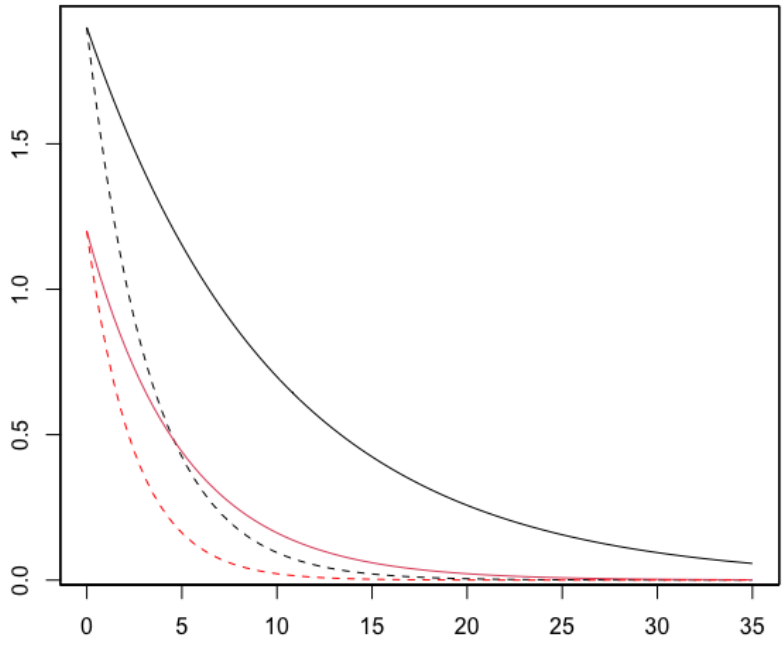
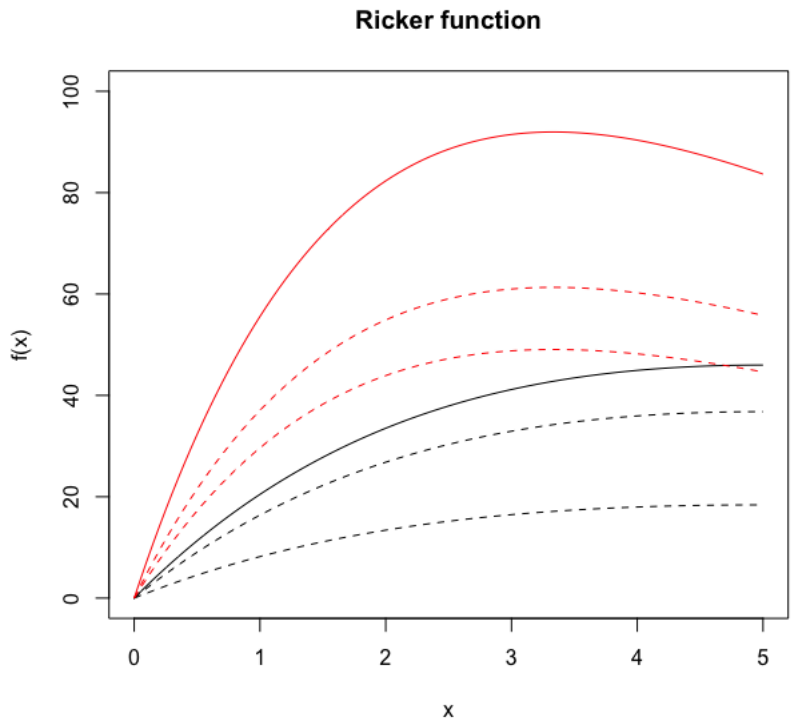
ECo 634: Micahel France Nelson

Lab 5

1. exp_fun =function(x, a, b)
   {
    return(a * exp(-b * x))
   }
   curve(
    exp_fun(x, 2.2, 1/15), add = FALSE, from = 0, to = 50,
    ann = FALSE, axes = TRUE, ylab = "f(x)"); box()
2. 

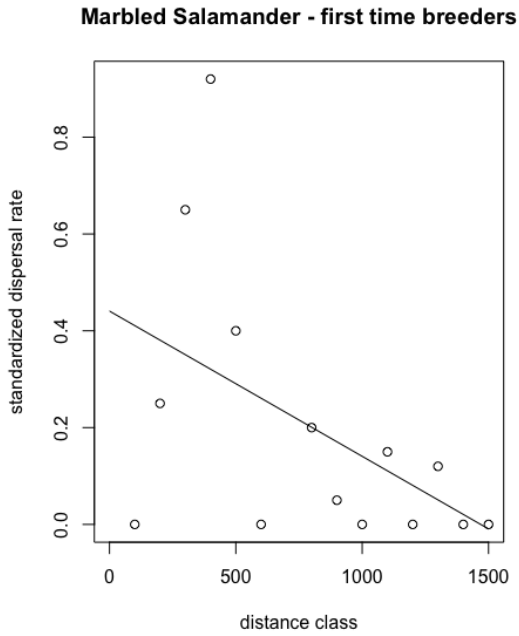
3. When you change the parameter a, it changes the height (y-intercept) of the curve.
4. When you change the parameter, it changes the rate of decay of the curve.

5.

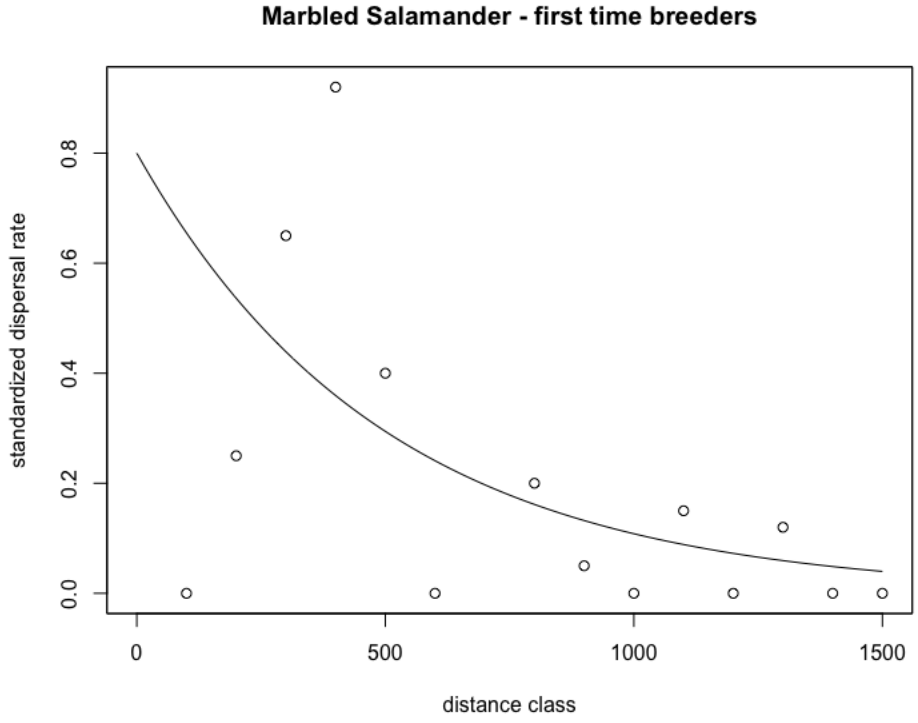


6. The initial slope is the parameter a.
7. The parameter b indicates that the highest point of the curve occurs at an x value of 1/b.
8. x1= 800, y1= 0.20068, slope= -0.003
   I chose the x and y values based on the locator. I trialed with a negative slope because the data points trend downward, and I changed the value until I felt it was a good fit based on the data points.

9.



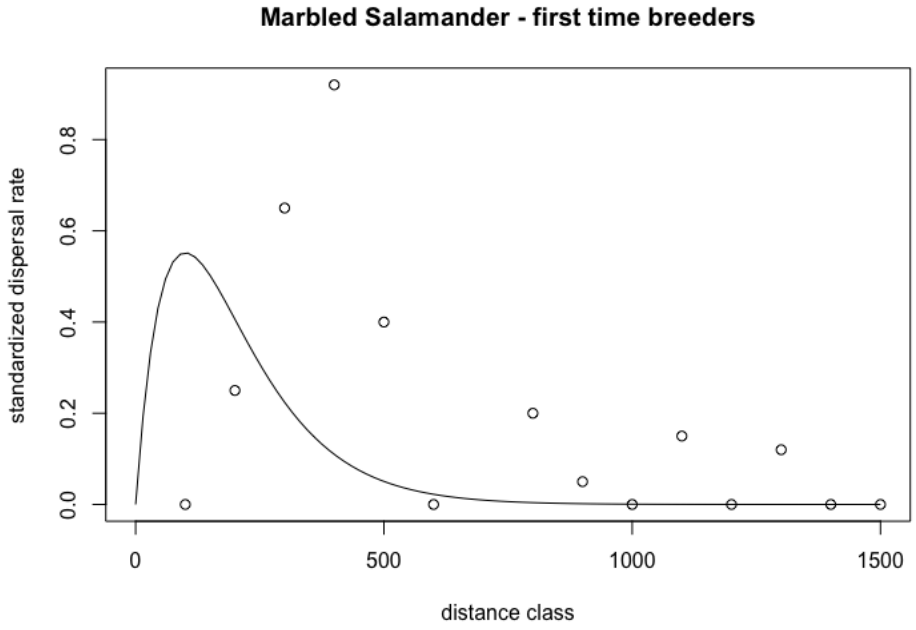
10. a = 0.8, b= 0.002
    I chose 0.8 for a because that is the height of the y-value axis. I chose 0.002 because this represents the rate of decay in the model, and if you consider the y-axis increments and x-value increments, the decay rate is very low.
11.



12. a= 0.015, b= 0.01

    I chose the a and b parameters based on trial and error.

13.



14. dispersal_dat$resids= dispersal_dat$disp.rate.ftb - predicted_line

    dispersal_dat$resids

15.