

Equilibrium solutions:

$$\frac{dM}{dt} = 0 \text{ and } \frac{dF}{dt} = 0$$

Male: $-\alpha M + \beta MF = M(-\alpha + \beta F) = 0$
 \Rightarrow either $M=0$ or $F = \alpha/\beta$.

Female: $-\gamma F + \lambda MF = F(-\gamma + \lambda M) = 0$,
 \Rightarrow either $F=0$ or $M = \gamma/\lambda$

2 equilibrium states 1. $(M, F) = (0, 0)$ \leftarrow both populations die out
2. $M = \gamma/\lambda$, $F = \alpha/\beta$ - M & F coexist at constant levels