**Abstract**

- Southern pine beetles (SPB), *Dendroctonus frontalis* are functionally iteroparous because adult females spread oviposition over multiple host trees via reemerging behavior.
- We dissected field-captured female adults to differentiate individuals that had and had not previously mated.
- This is a measure of iteroparity -- increased proportion of previously mated females indicates greater iteroparity.
- High predation could decrease iteroparity. We tested this by comparing the degree of iteroparity in two SPB populations before and after a predictable seasonal decline in the abundance of the predator *Thanasimus dubius*.
- > 95% of females reemerged from trees after oviposition, presumably seeking additional trees.
- Between-tree survival increased from 50 to 80%, when the predator: prey ratio decreased from 1 : 5 to 1 : 100.
- Thus, iteroparity may be very common.
- Increased iteroparity (e.g., via decreased predation) hastens convergence on a stable stage distribution.
- The degree of iteroparity influences the probability of local extinction or pestilence.
- Increased iteroparity may have evolved in this species as a strategy to limit the risk of very low fitness caused by intense larval competition in some trees.

**Questions:**

1) How common is reemergence in SPB populations?

2) What is between-tree survival probability?

3) What are population-level consequences of reemergence?

**Conclusions:**

- Observed reemergence was very high.
- Between-tree survival increased when predator populations declined.
- In some spots, females may oviposit in multiple trees.
- Observed per capita reproduction in a tree may only represent a fraction of a female’s lifetime reproduction.
- Reemergence increases the rate a population reaches a stable stage distribution.
- When spots start in the spring, they are synchronous (all adults).
- Reemergence increases the flying / attacking beetle population which means there is less likely to be a period when there are no attacking beetles—decreased probability of a spot becoming inactive.

**Future Consideration:**

- What variables influence reemergence rates?
- If females regularly oviposit in multiple trees how should we estimate per capita reproduction?
- Do patterns of iteroparous vs. semelparous behavior across *Dendroctonus* species reflect common evolutionary histories?