Depredation of Artificial Avian Ground Nests in an Early Successional Ecosystem
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Introduction
- Conversion of forest landscapes to agricultural, urban, and timber production has led to habitat fragmentation$^1$
- Habitat fragmentation increases the amount of edge while decreasing interior habitat$^1$
- Apex predator populations have decreased in fragmented landscapes; in turn, "releasing" mesopredators such as raccoons$^2$
- Ground-nesting bird populations are declining, in part due to nest depredation from mesopredators$^3$

Objectives
- Assess nest predation in a fragmented ecosystem
- Differentiate between primary and secondary predation
- Evaluate role of mesopredators in nest predation

Methods
- Taylor Fork Ecological Area
- Artificial ground nests baited with 10 chicken eggs
- Nests monitored ~2 weeks with Browning Strikeforce cameras
- 3 intervals from June-July 2022
- Randomly-generated artificial nest locations at Taylor Fork Ecological Area

Results
- 1545 imaging events recorded across 230 trap-nights
- 13 of 17 artificial nests were depredated (76%)
- 126 of 180 eggs were depredated (70%)
- With randomly-generated nest locations, predation did not correlate with canopy closure (S = 539, p = 0.18, ρ = 0.34)
- 79% of depredation by raccoons, 6% by coyotes, and 1% by Virginia Opossum

Conclusion
- The majority of artificial nests at Taylor Fork Ecological Area were depredated, mostly by raccoons
- Coyotes were principally primary depredators
- Virginia Opossum were secondary depredators
- Contrary to other studies$^4$, no instances of bird predation were observed
- Relation between predation and canopy closure unclear from limited sample size; future studies should better assess how nest exposure may relate to predation

Literature Cited

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