CAUSE-SPECIFIC MORTALITY AND ANTI-PREDATOR BEHAVIOR IN MIDWESTERN SONGBIRDS

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ABSTRACT

Predation is a ubiquitous selective pressure that profoundly influences animals on evolutionary and ecological time-scales, but we lack estimates of predator-specific mortality rates for many taxa. We investigated cause-specific mortality of breeding songbird nests in the Midwestern United States and studied the behavior of birds in response to the risk of predation from a diverse suite of predators. Predator-specific mortality rates clarified overall patterns of nest survival, with strong variation in predator-specific rates of predation occurring between songbird species and nest stage. Environmental variables such as nest-site stem density and landscape forest cover also influenced predator-specific rates of predation. Many predators (e.g., corvids, mesopredators, rodents) frequently hypothesized to drive decreased nest survival in fragmented landscapes were not important contributors to overall predation rates in fragmented landscapes. Despite the diversity of species identified depredating songbird nests, parent birds were able to assess an imminent risk of predation and reduced nest visitation rates in an effort to avoid revealing nest locations to predators. Our review of camera use at bird nests demonstrated the variety of technology that is currently available to address a broad suite of study questions.