



CHAPTER 9

ARE NEST PREDATORS ABSENT FROM NOISY AREAS OR UNABLE TO LOCATE NESTS?

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ABSTRACT.—Increases in anthropogenic noise (hereafter “noise”) exposure may negatively affect reproductive success for breeding birds because noise may mask sounds of approaching predators. However, we recently found that increases in noise amplitude positively influenced nest survival through a decrease in nest predation. On the basis of this result, we hypothesized that noise may result in (1) a numerical decrease in predators in noisy areas or (2) a functional predator response, in which predators are present but noise interferes with their ability to locate nests. We separated the effects of nest predation risk due to a numerical decrease in predators and risk associated with activity at the nest using artificial-nest experiments on control and noisy treatment sites and within a broad range of noise exposure. Our results concurred with results from natural nests regarding patterns of predation, which suggests that common predators may be less abundant in areas with increased noise exposure. Additionally, cameras paired with artificial nests photographed Western Scrub-Jays (*Aphelocoma californica*) depredating nest contents mainly on control sites, which is consistent with evidence that Western Scrub-Jays have lower occupancy in noisy areas. Our findings suggest that breeding birds in areas with high amplitudes of anthropogenic noise may benefit from increased nest success. However, this benefit should be viewed in the context of changes to avian nesting community diversity when exposed to anthropogenic noise; only those species tolerant of noise may persist.

Key words: artificial nests, compressor noise, gas wells, nest predation, New Mexico, quail eggs.

¿Están los Depredadores de Nidos Ausentes de Zonas Ruidosas o son Incapaces de Localizar los Nidos?

RESUMEN.—El incremento en la exposición al ruido antropogénico (en adelante llamado “ruido”) podría afectar negativamente el éxito de las aves reproductoras debido a que el ruido puede enmascarar los sonidos de un depredador acercándose. Sin embargo, recientemente encontramos que el incremento en la amplitud del ruido afecta positivamente la supervivencia de los nidos mediante una disminución de su depredación. Con base en este resultado, postulamos las hipótesis de que el ruido puede resultar en (1) una disminución numérica de los depredadores en áreas ruidosas o (2) una respuesta funcional de los depredadores tal que éstos están presentes pero el ruido interfiere con su habilidad para localizar los nidos. Separamos

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