

The foraging ecology of the gray rat snake (*Elaphe obsoleta spiloides*). II. Influence of habitat structural complexity when searching for arboreal avian prey

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Abstract

A predator's behavior and success when foraging can be compromised by a variety of environmental factors. We examined the effect of variation in habitat structural complexity on the predatory success of the semiarboreal gray rat snake (*Elaphe obsoleta spiloides*) foraging for arboreal bird nest contents. Individual snakes searched for nests in enclosures containing one of five levels of vegetation density that reflected the range of structural complexity measured at a field site where predator and prey species are common. Subjects were most proficient at locating prey in enclosures having low levels of structural complexity, and experienced decreased predatory success in barren or highly-complex habitats. Ten behaviors comprised over 95% of the trial durations, and four of these occurred more often than the other six regardless of variation in structural complexity within the enclosure. We suggest that low levels of structural complexity offer snakes concealment from predation while not obscuring their view of provisioning activity at the nest.

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