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### **The Foraging Ecology of the Gray Rat Snake (*Elaphe obsoleta spiloides*). III. Searching for Different Prey Types in Structurally Varied Habitats [Abstract]**

Dietary generalists foraging for prey inhabiting different microhabitats may encounter different levels of structural complexity. We examined the effect of variation in prey type on the predation success and behaviors of the semi-arboreal gray rat snake (*Elaphe obsoleta spiloides*) foraging in structurally varied habitats. Individual snakes searched for contents of arboreal birds' nests or for small rodents in enclosures that simulated a bottomland hardwood forest habitat with one of five levels of vegetation density. Latency to prey capture was lower when the snakes were searching for small rodents than when they were searching for birds' nests, and lower for male snakes than for females. Generally, snakes were most successful when searching for prey in enclosures with low levels of structural complexity, and experienced decreased predation success in barren or highly complex habitats. Habitats with low levels of structural complexity may offer the snakes concealment from predation while not obscuring their perception or pursuit of prey. Of behavior durations measured in the trials, over 95% concerned 6 of the 20 behaviors described, and 3 of these occurred more often than the others, regardless of variation in the structural complexity of the habitat. Foraging gray rat snakes exhibited behaviors characteristic of active and ambush foraging strategies that increased their predation success on different prey types in the varied environments.