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# Mutual Mortality of Great Horned Owl and Southern Black Racer: a Potential Risk of Raptors Preying on Snakes

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ABSTRACT.—We encountered a dead southern black racer snake (*Coluber constrictor priapus*) coiled around a dead Great Horned Owl (*Bubo virginianus*). We suggest the owl was strangled by the snake before the snake died of wounds inflicted by the owl. There are previous reports of intense physical struggle between Great Horned Owls (and other raptors) and large constrictors but this is the first documented report of mutual mortality between a Great Horned Owl and a snake. *Received 19 Oct. 2000, accepted 31 Aug. 2001.*

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The Great Horned Owl (*Bubo virginianus*) has the broadest diet of any North American owl (Houston et al. 1998). Throughout most of its range, its diet consists of 90% mammals and 10% birds (Houston et al. 1998). Although reptiles can comprise as much as 15% of the diet in arid regions (Llinas-Gutiérrez et al. 1991), reptiles are less common in the diets of Great Horned Owls from more mesic areas such as the eastern United States (e.g., Korschgen and Stuart 1972, Wink et al. 1987, Tyler and Jensen 1981). Here we present an incident of mutual mortality apparently resulting from a Great Horned Owl's attempt to prey upon a large snake, the southern black racer (*Coluber constrictor priapus*).

The incident occurred in an open shortleaf pine (*Pinus echinata*) woodland within the

FIG. 1. Dead Great Horned Owl (*Bubo virginianus*) entangled with dead southern black racer (*Coluber constrictor priapus*) discovered along a forest trail in the Ouachita Mountains of Arkansas, 22 June 1999. Photographs by RWP.

Ouachita National Forest of western Arkansas (34° 46′ N, 94° 14′ W). On 22 June 1999 at 14:15 CST, we encountered a Great Horned Owl and a black racer laying dead on an infrequently traveled forest road (Fig. 1). The two were entangled and apparently had killed each other. The southern black racer was a relatively large specimen (155 cm total length). The snake was coiled once around the base of the owl's wing and twice around the owl's neck. The owl gripped the snake in its talons approximately 25 cm posterior to the head. The snake had numerous wounds near its midsection and severe trauma to the head. Although the sex of the owl was unknown, its weight (1443 g) suggested it was either a small female or a large male (Craighead and Craighead 1956, Snyder and Wiley 1976). The owl had a wound to its right upper leg, which appeared to have been inflicted by the snake. Since the southern black racer is a primarily diurnal species and we traveled the road the previous evening, we concluded the event had occurred the morning of 22 June. In addition, motor reflexes were still present in the snake, indicating the snake had died recently.

We suggest the following scenario. Initially, the owl captured the snake and inflicted head trauma. However, the snake, by coiling around the owl's wing, disabled the owl's ability to escape or fly. Once the owl lost its ability to escape from the snake, the snake strangled the owl. The snake eventually succumbed to trauma inflicted by the owl.

We previously have captured numerous black racers in the area where the owl and snake were found. When grasped at the base of the head, a racer typically thrashes violently for a moment then coils around the holder's arm and constricts. The adaptiveness of this behavior may be demonstrated by our observation. The owl likely would have released the snake when it constricted had the snake not prevented the owl from flying.

There are other reports of Great Horned Owls entangled with snakes. Forbush (1927) gives an account of a Great Horned Owl nearly strangled by a "black snake" before the

snake was killed by a farmer. Grimes (1936) reported a long struggle between an emaciated Great Horned Owl and a "black snake" before he shot both. The geographic locations of these reports would indicate either the black racer, the coachwhip snake (*Masticophis flagellum flagellum*), or the black rat snake (*Elaphe obsoleta obsoleta*). Peterson (1968) presented photographs of a struggle between a Great Horned Owl and a coachwhip snake and suggested "such fights can end in death for both combatants." While injuries to raptors resulting from attacks on large or venomous snakes may be relatively common, death rarely has been observed.

Snakes are common in the diets of Red-tailed Hawks (*Buteo jamaicensis*) and Red-shouldered Hawks (*B. lineatus*; Stewart 1949, Knight and Erickson 1976, Sherrod 1978). Therefore, these birds may be more adept at capturing and handling snakes. However, on two separate occasions (dates not recorded) in eastern Texas, we observed Red-shouldered Hawks entangled with large coachwhip snakes. In the first case, we found a hawk with a large coachwhip (about 150 cm total length) coiled around one wing. The snake had several lacerations in the neck region but was still quite active. Because so much of the snake was coiled around the hawk's wing, it is unlikely that the snake could have coiled around the hawk's neck. It is more likely that the hawk eventually would have inflicted a fatal wound to the head or neck of the snake. We untangled and released both. The hawk escaped uninjured but the snake, its neck injured, escaped to cover slowly. We found a second hawk in a similar situation with a smaller coachwhip coiled around one wing. Our presence disturbed both animals. This hawk was able to free its wing and escape, and the snake (with no visible injuries) escaped rapidly. It was not possible to evaluate the probable outcome of this encounter.

The potentially fatal consequences of other raptor species preying on snakes have been demonstrated by other observations. Brugger (1989) reported the death of a Red-tailed Hawk that had captured a coral snake (*Micrurus fulvius*). Athias (1972) reported that a Lizard Buzzard (*Kaupifalco monogrammicus*) in western Africa managed to escape after being strangled for 15 min when an "adder" (species unknown) it had captured coiled around the bird's neck. Therefore, venomous snakes, as well as large constrictors such as the coachwhip, black rat snake, and black racer, may inflict injury or even death on raptors during predation attempts.

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