

Abstract of an oral presentation delivered on 10 July 2005 at the Joint Meeting of Ichthyologists and Herpetologists in Tampa, Florida.

Reproductive behavior in a free-ranging population of Mohave rattlesnakes (*Crotalus scutulatus scutulatus*)

Despite many studies of its venom, few researchers have investigated the natural history of *Crotalus s. scutulatus* (Mohave rattlesnake). This radiotelemetry study of a California population produced > 3700 encounters with 80 free-ranging animals between August 2001 and November 2004. A bimodal mating pattern was observed, with 13 pairs engaged in reproductive behavior between 21 August and 7 October, including accompaniment ( $n = 3$ ), courtship ( $n = 7$ ), and coitus ( $n = 3$ ) and 18 similar observations between 16 March and 16 May, including trailing ( $n = 1$ ), accompaniment ( $n = 5$ ), courtship ( $n = 7$ ), and coitus ( $n = 5$ ). Only one incidence of reproductive behavior was observed in 2002 (September courtship) during a rainfall season that produced only 28% of mean (1971-2000) precipitation. Spring courtship occurred a month later in 2003 (April-May) than in 2004 (March-April), despite nearly identical mean emergence dates (11 March and 10 March, respectively), possibly due to dehydration that was resolved by heavy rain on 16 March 2003. During the 2003 and 2004 reproductive seasons, mean daily movement of males (47 meters/day  $\pm$  6.93 SE) was more than 3 times that of females (14 meters/day  $\pm$  2.36 SE) (independent  $t$ -test,  $P = 0.001$ ). Mean monthly movement (both sexes combined) showed significant correlation with the number of reproductive pairs observed per month (Pearson's  $r = 0.445$ ,  $P = 0.001$ ). Utilizing only specimens with  $\geq 365$  d continuous data (mean 745 d; range 370-953), males ( $n = 6$ ) were found to occupy much larger areas than females ( $n = 8$ ) (independent  $t$ -test,  $P = 0.001$ ); mean estimated home ranges (95% fixed kernel method) were 20.4 ha ( $\pm$  2.59 SE) and 2.2 ha ( $\pm$  0.43 SE), respectively. Neonates appeared in late August and September and data suggest that males and females are sexually mature at ca. 16-20 and 25 months, respectively.

Key words: *Crotalus scutulatus*, Viperidae, reproduction, behavior