Abstract of a poster presentation at the Biology of the Rattlesnakes symposium at Loma Linda University, Loma Linda, California.

Males biting males: Does testosterone shape both sides of the snakebite equation?

We correlate snakebite epidemiology recorded at a major southern California trauma center with examinations of the biting snakes and observations of surrounding wild rattlesnake populations. Of the 78 rattlesnake bites presenting in 2003 and 2004, 83% (n = 65) were male patients. 81% (n = 63) of all bites were to the hands and/or forearms. Although more males suffered hand/forearm bites, the difference between sexes was not significant (*P* = 0.342). Most bites occurred in May (n = 17), June (n = 13), August (n = 11) and September (n = 11). A nearby 4-year field study of Mohave rattlesnakes (*Crotalus scutulatus*) established a bimodal mating period (March/April/May and August/September/October). During these months in 2003 and 2004, mean daily movement of male Mohave rattlesnakes (47 meters/day, SE = 6.93) was more than 3 times greater than the mean daily movement of females (14 meters/day, SE = 2.36) (*P* = .001). Similarly, the mean home range utilized by male Mohave rattlesnakes (20.4 hectares, SE = 2.59) was nearly 10 times greater than that utilized by females (2.2 hectares, SE = 0.43) (*P* = .001). Available data for other rattlesnake species responsible for the trauma center's bites (*C. helleri, C. ruber, C. cerastes*) also suggest that males are more motile than females with greatest movement occurring during their mating seasons. Of the 12 rattlesnakes responsible for bites and for which sex could be determined, excluding neonates, 83% (n = 10) were determined to be males (*P* = 0.039, assuming a background population ratio of 50:50 males to females). Although limited by small sample sizes in some aspects, our study suggests that male rattlesnakes are more likely than females to bite humans, at least partly because mature male rattlesnakes are significantly more motile than females during their mating seasons and, therefore, encounter humans more frequently. Consistent with previous investigators, we conclude that male humans are more likely than females to be bitten by rattlesnakes, probably because they more often choose to interact with the snakes. Our study suggests that the severity of a snakebite season may be predictable as the factors that stimulate sexual behavior in rattlesnakes become better understood.

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