

NATURAL HISTORY RESEARCH REPORTS

Are Rattlesnakes Evolving More Toxic Venom?

Recent reports in the lay press have suggested that bites by rattlesnakes in the last several years have been more severe than those in the past. The explanation, often citing physicians, is that rattlesnakes are evolving more toxic venom, perhaps in response to anthropogenic causes. HAYES AND MACKESSY (2010. *Wilderness & Environmental Medicine* 21:35–45) suggested that other explanations are more parsimonious, including factors dependent on the snake and factors associated with the bite victim's response to envenomation. Although bites could become more severe due to an increased proportion of bites from larger or more provoked snakes (i.e., more venom injected), the venom itself evolves much too slowly to explain the severe symptoms occasionally seen. Increased snakebite severity could also result from a number of demographic changes in the victim profile, including age and body size, behavior toward the snake (provocation), anatomical site of bite, clothing, and general health including asthma prevalence



TROY HIBBITTS, 2007

Juvenile Leopard Tortoises (*Stimocheilus pardalis*) favor colors that correspond to feeding preferences of adults in Namibia for plants with reddish-pink or yellow flowers.



SUZANNE L. COLLINS, GVNH

No published evidence supports recent reports suggesting that bites by rattlesnakes, such as this Mojave Rattlesnake (*Crotalus scutulatus*), are more severe than in years past.

and sensitivity to foreign antigens. Clinical management of bites also changes perpetually, rendering comparisons of snakebite severity over time tenuous. Clearly, careful study taking into consideration many factors will be essential to document temporal changes in snakebite severity or venom toxicity. Presently, no published evidence for these changes exists. The sensationalistic coverage of these atypical bites and accompanying speculation is highly misleading and can produce many detrimental results, such as inappropriate fear of the outdoors and snakes, and distraction from proven snakebite management needs, including a consistent supply of antivenom, adequate health care, and training. The authors urged healthcare providers to avoid propagating misinformation about snakes and snakebites.

Juvenile Leopard Tortoises Like Red

Juvenile Leopard Tortoises (*Stimocheilus pardalis*) from Namibia approached the colors red, light green, and olive more frequently than they approached nine other colors in a behavioral experiment. The 44-day study by SIMANG ET AL. (2010. *Journal of Herpetology* 44:327–331) sought to determine what visual cues are important in foraging Leopard Tortoises and if they engage in color discrimination. Data suggested that a natural preference exists for certain colors and that these correspond well with foraging observations. Free-ranging adult Leopard Tortoises eat considerable amounts of plants with reddish-pink or yellow flowers and reddish-pink stems. The authors noted that other visual cues such as texture, shape, and height might also influence tortoises when selecting food.

NEWS BRIEFS

Turtles Killed “in Millions” by Fishing Gear

Millions of marine turtles have been killed over the past two decades through entrapment in fishing gear, according to a global survey. Described as the first global synthesis of existing data, the study found especially high rates of “bycatch” in the Mediterranean and eastern Pacific. Six of the seven sea turtle types are on the Red List of Threatened Species.

Writing in the journal *Conservation Letters*, researchers advocate much greater use of gear

safe for turtles. These include circular hooks rather than the conventional J-shaped hooks on long fishing lines, and hatches that allow the reptiles to escape from trawls.

Turtles must come to the surface to breathe. When they are caught in a net or on a fishing hook, they cannot surface, and drown. Lead researcher Bryan Wallace said the state of the world's turtles was an indicator of the wider health of the oceans. “Sea turtles are sentinel species of how oceans are functioning,” he said. “The impacts that human activities have on

them give us an idea as to how those same activities are affecting the oceans on which billions of people around the world depend for their own well-being.” Dr. Wallace works in the global marine division of Conservation International and at Duke University in the US.

The raw material from the study came from records of bycatch — incidental catches in fishing gear — from different regions of the world. Over the period 1990–2008, records showed that more than 85,000 turtles were snared. However, those records covered a tiny