

Rattle Me This!

By Frederick Boyce

I recently noticed our beautiful timber rattlesnake at the NC Aquarium at Pine Knoll Shores relaxing by her window, probably enjoying a respite from the constant glass-tapping. She looked so nice that I thought it warranted taking a few photos. Meanwhile, yet another sensationalized news story, this time out of Alabama, was sadly making the rounds on the internet, with a photo of some rather proud-looking fellows hoisting an apparently gigantic timber rattlesnake—dead, of course—draped over a branch. The snake was no more than an average-sized adult of perhaps 40 inches, but thanks to an optical illusion known as “forced perspective” (whereby objects placed close to the camera appear to be much larger than they actually are), it appeared deceptively enormous, like a python. The headline blared “Watch Your Step!” as if the woods were literally crawling with giant killer rattlesnakes.

Rattlesnakes are actually in decline throughout their range and are becoming decidedly rare. These snakes, like most creatures, are motivated by a strong instinct for survival and have absolutely no interest in initiating a potentially suicidal engagement with anything as large and formidable as a human if they can possibly avoid it, which is the entire point of their being equipped with a built-in warning system. They desire only to be left in peace, hence the motto “Don’t Tread on Me.” In 1775 Benjamin Franklin wrote about this very topic with amazing astuteness as he pondered the newly raised company of Marines and the idea of a rattlesnake being a fitting symbol for the nascent United States:

I observed on one of the drums belonging to the marines now raising, there was painted a Rattle-Snake, with this modest motto under it, “Don’t tread on me.” As I know it is the custom to have some device on the arms of every country, I supposed this may have been intended for the arms of America. . . . [I]t occurred to me that the Rattle-Snake is found in no other quarter of the world besides America, and may therefore have been chosen, on that account, to represent her. She never wounds ’till she has generously given notice, even to her enemy, and cautioned him against the danger of treading on her. . . . She is therefore an emblem of magnanimity and true courage.

There seems to be an odd obsession with counting the “rattles” on a rattlesnake, especially among those (such as the guys in that Alabama news story) who view these uniquely American symbols as threats to their safety and formidable enemies, even if they’re just out in the woods minding their own business. There is a perception that the size of the rattle has some sort of significance as a trophy, but this is not the case. Depending upon a number of different circumstances, a relatively young, average-sized snake might have a rather large and impressive-looking rattle, while an older and sizeable adult can have a shorter one that has been broken off. The rattle is composed of hollow, interlocking segments made of keratin, and the sound it makes is the result of the segments shaking against each other as the tail is vibrated. Rattlesnakes are born alive with a single segment, referred to as a “button,” that is incapable of producing any sound. Each time the snake sheds its skin a new segment is added from the base of the rattle, so that the original button remains at the tip unless it gets broken off. Each individual segment is shaped somewhat like the bicorn hat that was popular with 18th century military officers. The upper part of the “hat”

fits securely into the segment above it while the base remains visible.

Young rattlesnakes can produce an audible sound very soon after their second or third shed, and as they can grow quickly, they might add new segments to their rattles three or even four times in their first year. Hence, there is no direct correlation between the number of segments in a rattle and the snake’s age in years, though an experienced snake biologist can use the overall shape and condition of a rattle to get a good estimate of the snake’s age.

The term “rattle” refers to the overall structure, and each snake has but one, so it is actually not accurate to refer to the individual *segments* as “rattles,” or to say that a snake gets “a new rattle” each time it sheds its skin. There is only one rattle, to which a new segment is added each time the snake sheds. There is however one possible instance in which the number of segments in a rattle might indeed have some sort of significance. Returning again to Ben Franklin and his observations of the first “Don’t Tread on Me” emblem in 1775:

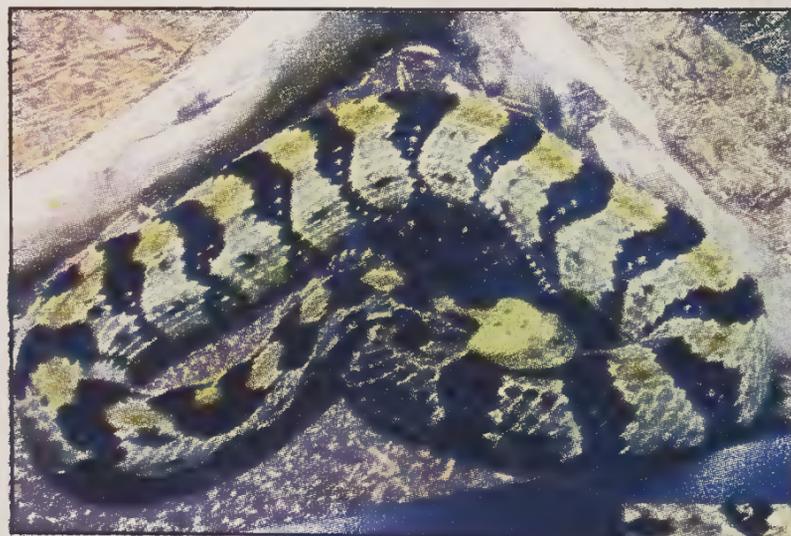
I went back and counted them [the segments in the rattle] and found them just thirteen, exactly the number of the Colonies united in America; and I recollected too that this was the only part of the Snake which increased in numbers. One of those . . . singly, is incapable of producing sound, but the ringing of thirteen together, is sufficient to alarm the boldest man living.

Indeed, the British were sufficiently alarmed to have reportedly fled in terror from the American ships under Commodore Esek Hopkins that were flying the dreaded rattlesnake flag, which was designed by Christopher Gadsden, a friend of Hopkins who represented South Carolina in the 2nd Continental Congress.

While taking these photos, I was somewhat pleased to observe that our timber rattlesnake at the aquarium is currently a “Don’t Tread on Me” snake, with 13 segments in her rattle (the black segment at the base of the rattle contains vascular tissue and will be added at the next shed [so it is not counted], and the tip is the hat-shaped natal button). We should all be very proud of our rattlesnakes—Franklin obviously was.

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Source: Gadsden Flag History—gadsden.info/history.html



Close-ups of the aquarium’s timber rattlesnake and her rattle.—Photos by Fred Boyce

