VICTIMS IN THE HONEYSUCKLE

Michael V. Plummer

Why would an otherwise gentle and kind old lady suddenly become a cold-blooded killer?

I must have been born with a favorable genetic predisposition for reptiles and amphibians; for as long as I can remember, I have been fascinated by frogs, salamanders, snakes, lizards, and turtles in any form—photographs, zoo exhibits, sounds, eggs, road kills, and best of all, living wild creatures. Encounters with herps while roaming the woods, fishing the creek, or gathering eggs in the chicken house were vivid highlights of my childhood experiences and one event, in particular, became forever etched into my ten-year-old psyche.

My friends and I had discovered a rough green snake in the honeysuckle vines on a neighbor's side yard fence. I had seen pictures of this dainty denizen of the undergrowth, but this was my first encounter. Built like the vines—long, thin, and green—only its painfully slow movement gave its presence away. Hearing our obvious excitement, the lady of the house, a seamstress, came out and without hesitation walked over to the fence and cut the slender snake in half with her shears, declaring us "safe." Safe? I didn't know I was in danger! I had been completely consumed in admiring a beautifully graceful and delicate serpent with seemingly zero capacity to harm anyone when it was eviscerated before my eyes. Why did she do that? Why would an otherwise gentle and kind old lady suddenly become a cold-blooded killer? I was disturbed and confused and I cried when I told my mother.

That unsavory event has replayed in my mind for more than 50 years. It has impacted me deeply and played a significant role in my transition from boy herpetologist to

professional scientist. Within the scientific community, it is sometimes frowned upon to admit an emotional connection with one's study subject; it is deemed more scholarly to emphasize scientific "problems" and "questions." Personally, I have no problem admitting that I like green snakes; in fact, I love the little guys (and gals). After 15 years of intensive study and thousands of observations, I continue to have great admiration and amazement for how they live and survive. Who would have guessed that a love of my life would show up when I was ten as the snake next door?

Green snakes occupy a unique niche among North American snakes; they are arboreal, typically living between three to ten feet above ground in trees and other vegetation. Their ability to camouflage themselves is so well developed that their dainty slender green bodies and slow, swaying behavior (like a plant in the breeze) render them extremely difficult to detect. Although I didn't realize it then, we were especially lucky to spy the one on the honeysuckle-strewn fence. Today, my work as a scientist hinges on successfully collecting large numbers of green snakes for study. Thus, I had to come up with a way to consistently obtain specimens. After trying numerous unsuccessful collection techniques, I happened upon the secret—work at night! The snakes curl up on the tips of branches to sleep. When the vegetation is scanned with a spotlight from below, their white underbellies shine like bicycle reflectors, making an exceptionally hard task no more difficult than picking apples. Pick me! Pick me! And I have—as many as 53 in a single outing.

After catching green snakes, I measure and weigh them and check them over for various conditions such as the presence and number of eggs. I give each snake a unique identifying mark by clipping its belly scales and then release it at its original capture site. My hope is to recapture individual snakes at a later date to get information on growth, movements, reproductive status, and population characteristics. I fit some snakes with radio transmitters so that I can follow

them around to unlock the secrets of their activities. Several thousand captures and hundreds of hours of radio tracking have provided me with interesting insights into the secret life of green snakes.

Unseen by most, green snakes are actually among our most abundant snakes, occurring in densities up to 150-300 per acre. Major portions of a green snake's maximum eight-year life may be spent within a very small ground area, less than a tenth of an acre; however, unlike most other North American snake species, green snakes have a considerable vertical dimension to their daily movement range. I have collected green snakes up to 30 feet above the ground. To put that into perspective, imagine yourself routinely climbing a tree to a height of 75-100 feet. Wow!

Foraging green snakes sway like branches in the wind and move with the certainty and speed of the minute hand of a clock, intricately snatching spiders, caterpillars, and other invertebrates from their lairs. How do I know what they eat? Since green snakes lack the necessary enzyme to digest invertebrate exoskeletons, I simply examine snake scats for identifiable body parts. In nature, the predator is sometimes the prey and green snakes are not exceptional. I caught on to this irony when I radio tracked female green snakes searching for nesting sites. Tracking revealed that blue jays are voracious predators of green snakes as are other snakes, such as coachwhips, racers, and various kingsnakes, which seem to relish them as tasty morsels. Pregnant female green snakes are particularly vulnerable to predators when they make their way to the ground in June to begin a nesting migration to a site where they deposit their clutch of six or seven small, rubbery eggs. A typical nesting site is three to six feet above the ground in the hollowed interior of a small tree located as far away as 250 feet from the snake's normal daily activity area. This remarkable arboreal nesting behavior is unique among North American snakes. Eggshells from earlier years are often found in the nests; however, I have yet to determine

whether the different-aged eggshells represent eggs from different females or those of a single female that returns to the same nest site each year.

Although ecologically green snakes are among our best-known serpents, much of our knowledge has come from studies conducted in a small part of their geographic range. Does green snake ecology differ in other parts of the range? I don't know. Are green snake populations equally dense in other areas? I don't know this either. But answers to these questions must be forthcoming if we are to be concerned about the health of the species and whether they will be around for our grandchildren to enjoy. Green snakes do not have official conservation status in most states within their geographic range, probably due to a lack of concrete knowledge about green snakes in those states rather than a particular knowledge that their populations are in good shape. Thus, I am not sure what the future holds for green snakes. Snakes in general are notoriously difficult to study and our knowledge is far overshadowed by our ignorance. Unfortunately, the unwise and unnecessary slaughter of snakes continues to pervade our society and despite remarkable advances in science, the gap between scientific knowledge and public ignorance of the value and role of snakes in nature may be wider than ever. It seems that most everyone is inclined to strong emotions when snakes are involved. But it remains a mystery to me why the emotions of others are often far different from, perhaps even the antithesis of, the profound sense of loss I felt when I witnessed my first green snake slashed and writhing on the ground.

My lifelong passion for understanding nature and preserving biodiversity, as well as the countless hours I have spent observing green snakes, softshell turtles, and other reptile species, has led me to think beyond the strict biological boundaries of "animal" species. For example, where does the human species fit into the grand scheme of things? Or, more personally, where do my family and I fit in? It seems

to me that, from a biological point of view, human beings are not completely unlike green snakes: historically, we are the products of many of the same familiar biological processes that universally shape every other species—competition, predation, and selection, for example. Each man, woman, and child seeks to fulfill his or her own biological needs and wants, often to the detriment of other individuals and species. But unlike green snakes, humans are spiritual beings and have the capacity to ponder a larger sense of connection and place within the physical and spiritual worlds. It is largely a spiritual activity to be concerned about the welfare of others, to make moral choices, and to take responsibility for something beyond oneself. For the most part, biologists believe that green snakes and every other species, except *Homo sapiens*, do not engage in such activities. Does possessing these qualities obligate humanity to concern itself with species other than its own kind? I think so, but in practice, we have done a poor job of acting on that obligation.

The eminent naturalist, E. O. Wilson, lamenting the accelerated extinction of species by human activities, described each species as a creation assembled with extreme care by genius—a strongly spiritual statement. The perception of to whom or what Wilson's "genius" referred differs among those who have bothered to ponder it. For example, the Biblical view is that the purpose of Creation (= nature) is to glorify God and that God commanded man to be a steward of his Creation. By definition, a steward is someone who cares for and manages someone else's property. Unfortunately, God has had ample chance to witness humanity's poor stewardship of nature. Glorify God? What glory is there to be had in that? I sometimes wonder what the biological world would be like if more humans understood and practiced this fundamental stewardship principle. One outcome immediately comes to mind—millions of green snakes lying in honeysuckle vines breathing a gigantic sigh of relief, just like me.