

Snakes of Puerto Rico

Learn about Puerto Rico's common reptiles.

By Larry Rodriguez Fornaris

A bluish Ameiva lizard forages the ground for small prey, uplifting dead leaves and debris with its pointed snout, flicking its red, forked tongue in search of crickets, roaches and other insects that seek refuge during the day. As the lizard approaches the base of an acerola tree, a dark, shiny arrow shoots down from one of the low branches and lands squarely on its neck. Alsophis have several predators, but they are still common in many areas of Puerto Rico.
Photography by Larry Rodriguez Fornaris

The lizard has been caught by an *Alsophis portoricensis*. It thrashes about, but the snake hangs on, like a high voltage wire. After about 30 seconds, the lizard succumbs to the toxic saliva flowing from the snake's rear fangs. The prey remains motionless, giving the snake an easy way to start the swallowing process, head down first. The rough, scaly skin of the lizard offers little resistance to the snake's jaws. The snake engulfs its prey in a few minutes. Once finished, it slowly climbs back up, silently disappearing from the sight of unsuspecting victims.

Subspecies

Alsophis portoricensis portoricensis is the most widely distributed subspecies on mainland Puerto Rico. However, four more subspecies are recognized: *A. portoricensis prymnus* (which takes the place of *A. portoricensis portoricensis* in southern Puerto Rico), *A. portoricensis variegatus* from Mona Island (a very small island sitting off the west coast), *A. portoricensis aphantus* from Vieques Island and *A. portoricensis richardi* from Culebra Island (Vieques and Culebra are small, populated islands on the east coast of Puerto Rico).

These snakes can be tan, dark brown or almost black, but their venter is always pale. They grow to a minimum of 1 1/2 feet and to a maximum of almost 4 feet in length. According to Dr. Juan A. Rivero (The Amphibians and Reptiles of Puerto Rico, 1978), subtle differences between each subspecies make each one distinctive within its range. The following descriptions are the most reliable in his study:

Alsophis portoricensis portoricensis is chocolate brown, and each scale is edged with dark brown (or white on the anterior part of the body). The head has no markings, and the throat is either white or marked with diffuse blotches. It is the largest of the *Alsophis* subspecies and the most common snake in some parts of the mainland.

Alsophis portoricensis prymnus is found in southern Puerto Rico; it is also fairly common in Caja de Muertos (a small island off the south coast). It grows to about 2 feet in snout-to-vent length. The color is tannish brown, and many of the scales are edged with dark. The anterior part of the body generally shows a dark, reticulated network. The venter is white in the anterior part of the body but becomes reddish posteriorly. The ventral scales may have a faint dark margin, but it is not as dark and conspicuous as in *A. p. portoricensis*. The chin, throat and anterior part of the body are heavily marked with dark spots.

Alsophis portoricensis variegatus inhabits Mona Island. It grows to only 1 1/2 feet. It also has a reticulated dorsum, especially prominent on the anterior part of the body. The head is variegated with black and usually bears a dark face mask. The ventral scales are mostly pale, but the chin, throat and anterior part of the belly are heavily marked with dark brown speckles.

Alsophis portoricensis aphantus is found only on Vieques Island. It is similar to *A. p. portoricensis* in having dark-edged scales and in lacking the reticulated dorsum, but there is a moderate to distinct lateral stripe (the particolored scales of the stripe have a rosette of two to four pale scales above), the chin and throat are heavily marked and the head may be plain or variegated. It grows to about 2 feet 2 inches long.

Alsophis portoricensis richardi ranges from Culebra Island to most of the Virgin Islands. It grows to about 2 1/2 feet and has a distinctive sandy to dark brown color. The top of the head is variegated, and it has a dark brown mask.

Measurements on snakes are usually done from snout to vent, so the overall length of the largest snake measured may be over 4 feet. *Alsophis*, like all racers, have extremely long tails. Exceptionally large specimens are fast and powerful. The head of the Puerto Rican racer is pointed at the snout but is thick at the upper jaw to accommodate the venom glands and

the rear-fang apparatus. Upon closer examination, the small fangs are visible, partially covered by gums. Their pupils are round and clear.

Predator and Prey

Alert by nature, *Alsophis* are diurnal, terrestrial snakes, although I have found them high up in trees, on several occasions. *Alsophis* are fast racers, making their capture rather difficult. At times, I thought I had caught one when it suddenly zipped from my grasp. Conversely, when hunting or stalking, they are capable of the slowest movements, whether slithering on the ground or resting on the branches of a tree.

Several months ago, in my backyard in Puerto Rico, I spotted an *Alsophis* in a tree, about 3 yards away. Basking in the sun, it remained perfectly still even as I passed beneath the tree. The snake had detected my presence, but it didn't flee or make a nervous movement. It was another branch swaying softly in the wind.

Prey items include anoles, *Ameiva* lizards, geckos, frogs and, in rare instances, mice. There are no records of *Alsophis* ingesting small birds. However, it could probably include them in its diet, depending on necessity and availability. Mostly, it feeds on lizards.

In captivity (I presume it also happens in the wild), *Alsophis* will often lift a freshly captured prey lizard off the ground and carry it a few feet from the spot it was caught. The snake will then crawl away swiftly, as though it were showing off its grand prize, at the same time keeping the prey away from the jaws of another predator, avoiding the possibility of being robbed of its meal. Once in a secure place, the snake holds onto the lizard, waiting for the venom to do its part. Then it swallows its kill.

I had an exceptionally large *Alsophis* that fed regularly on white mice. It didn't lift the mice off the ground. Instead, the snake held on tight, because the mouse took longer to succumb to the toxins. Often, the snake would start swallowing it before it was completely immobilized. Fortunately, this diet kept the snake in top shape. Unlike the wild-caught lizards that can be fed to an *Alsophis*, the mice fed to my snake were raised at home. I have observed that baby rat snakes (*Elaphe* spp.) that feed on baby lizards often fall victim to the parasites carried by the lizards. Those feeding on pinkies from the beginning have a better chance of becoming healthy adults.

Alsophis tend to be more tolerant to such parasites, because their diet is so specialized. They can feed entirely on cold-blooded prey without suffering ill effects. In the wild, snakes also become infected by parasites, external and internal. But they are free to move from one place to another, to change their diet and to make conditions unfavorable for parasites. Sometimes, a slight change in temperature and environment will make the parasites look for another host.

More importantly, wild snakes are not subject to captivity-induced stress. Stress makes captive life (and its limitations) worse. To minimize stress, do not disturb a nervous snake and supply it with a hiding spot in its cage for security. A stress-free animal lives a healthy life, feeds well and even breeds for several generations. A healthy *Alsophis* living in a quiet place will thrive on one lizard a week.

Housing for this snake should not present any problems. I have seen large specimens feed regularly in small cages. However, given their high-strung nature, they are better off in a large cage with hiding places and branches. The substrate can be newspaper or gravel (I prefer newspaper for ease of cleaning). They also need a large water bowl. A 20-gallon terrarium for one large specimen (or several small ones) is ideal. If more than one specimen is to be kept in the same cage, they should be separated when feeding. The top screen should be sturdy and provide ample ventilation. Soft, scratch-resistant screen tops are a great choice, though I have yet to see an *Alsophis* grate its nose on any surface.

Watch Out, They Bite!

When feeding, it's best to leave the snake alone. If interrupted in the process, the snake might let go of its prey. It will return later to get it after curious onlookers go away. This is especially important with mice feeders. The mouse is more tolerant to the snake's toxin, and it will save the prey undue suffering if the whole process flows smoothly.

Alsophis is not a snake for leisure handling. If it doesn't bite, it will release a foul smelling musk from its cloacal glands. Some specimens can be tamed down with frequent interaction from a patient keeper, but I do not recommend *Alsophis* as handleable pets.

A keeper should be aware that it is a slightly venomous snake. The degree of toxicity of its venom depends more on the person than the snake. Allergic persons should avoid the snake altogether. I have been bitten several times by this snake, but only once did it get a firm hold on my finger. On this occasion, the rear fangs were embedded in the little finger of my left hand. It was painful. As expected, the bite was followed by acute itching, which was soon followed by heavy swelling.

Aside from the itching on the site of the bite, the rest of the hand felt as if it were dosed with anesthesia; I could slap it with my right hand and feel nothing. The hand remained badly swollen for a week. Had it been my right hand, I would not have been able to write with it. After a week, the swelling subsided and I could start to move the fingers more freely. My forearm was also affected to a lesser degree. It took a month to fully recover from that bite.

A fellow hobbyist was very unlucky. He was bitten on his forearm and had to be taken to the hospital because the entire left side of his body was paralyzed. He was given anti-inflammatories to reduce the swelling. He also developed fever, aches and other symptoms. As serious as this may appear, no deaths have been reported.

A herpetologist friend, who is more resistant to the venom, only develops minimal swelling. Each case is different. Usually, the snake doesn't get a chance to sink its rear fangs in the skin, if the victim jerks the hand away quickly, which then may also injure the snake.

As for the reptile, it only bites when cornered, molested or grabbed. When preparing to strike, it raises and spreads a cobra-like hood (narrower than that of a cobra). However, although cobras spread their hoods readily, *Alsophis* needs to be provoked. I can induce the snake to spread its hood by holding its tail or pressing it firmly against the ground. The snake comes back, mad and daring, ready to strike, like an immature cobra.

Dangerous Enemies

As formidable as it seems, *Alsophis* is not without its enemies. Besides man, the mongoose, the red-tailed hawk and the Caribbean sparrow hawk are its worst enemies in the wild. Rats can be dangerous to them, and cats and pigs also kill snakes. Somehow, with its speed and secretiveness, the snake remains abundant in many parts of the island.

The Puerto Rican racer's reproductive behavior remains largely unknown. Presumably, it mates in the early summer and lays nine to 12 eggs two months after breeding. Hatchlings are about 8 inches long and feed on baby lizards and frogs. Like all babies, they are highly vulnerable at this stage; a common toad might confuse one for an earthworm and get away with eating it! Baby snakes also make a quick meal for herons, chickens and other birds.

When a juvenile *Alsophis* survives, it makes a superb lizard hunter. Maybe you can witness this when visiting the wild regions of the island, if you ever get lucky enough to see this speedy serpent clearly!

*This article originally appeared in the December 2000 issue of *Reptiles* magazine.*