

Corn snake, *Elaphe g. guttata*

Status:

State: Endangered

Federal: Not listed

Identification

Also known as the red rat snake, the corn snake is a strikingly beautiful and docile serpent. Highly variable in coloration, the upperparts range from brown to light orange or red, and are marked with brick red blotches outlined in black. Two red lines extend from a blotch on the back of the neck and merge at the top of the head, forming a spear-shaped mark. In addition, a red line extends from either side



© Robert Zappalorti

of the head, through the brown eyes, and across the snout. The underside of the corn snake is checkered with black and white rectangular markings, which have been likened to corn kernels or piano keys. The undertail is striped with black and white lines. Corn snakes have weakly keeled scales and a divided anal plate. The sexes may be distinguished externally by the size of the tail, which is longer and thicker in males. Adults measure 0.76 to 1.2 meters (2.5 to 4 ft.) in length, with a record individual of 1.8 meters (6 ft.) long (Conant and Collins 1991).

The corn snake molts several times a year, shedding its outer layer of skin to accommodate the growing animal. Prior to shedding, the snake appears duller overall and the eyes become cloudy. During this vulnerable time, the corn snake seeks and rubs against bark, logs, or rocks to dislodge the old skin. Once a tear is made, the snake crawls out of the old skin, leaving its shed behind. After shedding, the snake appears more vibrantly colored and resumes normal behavior. The complete process of shedding, from clouding to sloughing off the old skin, spans about a week or longer.

Habitat

Corn snakes inhabit mature, upland pine-dominated forests that contain uprooted trees, stump holes, and rotten logs. Soil types typically include sands and loams. Pitch pine (*Pinus rigida*), blackjack oak (*Quercus marilandica*), lowbush blueberry (*Vaccinium vacillans*), highbush blueberry (*V. corymbosum*), greenbrier (*Smilax spp.*), bracken fern (*Pteridium aquilinum*), Pennsylvania sedge (*Carex pensylvanica*), and heather (*Hudsonia spp.*) often comprise corn snake habitats. In addition, shortleaf pine (*P. echinata*), Virginia pine (*P. virginiana*), black oak (*Q. velutina*), scarlet oak (*Q. coccinea*), and common hairgrass (*Deschampsia flexuosa*) may be present. Corn snakes inhabit locations containing a water source, such as a stream or pond. Open field and forest edges are used for foraging. The home range of a marked corn snake in Ocean County encompassed 4.6 hectares (11.3 acres) (Zappalorti and Johnson 1982a).

A highly fossorial (burrowing) species, the corn snake seeks cover within subterranean burrows, stump holes, or old, rotten, and hollowed railroad ties. These snakes also tunnel beneath sand mounds, boards, logs, rubbish, or concrete slabs. Abandoned buildings or foundations may be used for nesting or hibernating. In some areas of New Jersey, corn snakes have shown a preference for abandoned, hollowed-out railroad ties, where they concentrate due to increased prey, protection from predators, and shelter for eggs and hatchlings.

Status and Conservation

Due to habitat loss, limited range in the state, illegal collecting, and population declines, the corn snake was listed as a threatened species in New Jersey in 1979. Although the species was afforded protection, severe habitat loss continued, particularly in Ocean and Atlantic counties. Likewise, this handsome and docile snake was highly prized by illegal collectors, who continued to excavate denning sites in search of these snakes. Many historic corn snake populations were lost due to habitat destruction and poaching and, despite extensive surveys, no new populations were found during the early 1980s. As a result of the continued and increased threats to this species and its' habitat, the corn snake was reclassified as an endangered species in New Jersey in 1984.

The New Jersey Natural Heritage Program considers the corn snake to be “demonstrably secure globally,” yet “critically imperiled in New Jersey because of extreme rarity” (Office of Natural Lands Management 1992). Documented corn snake sites are currently protected through the Pinelands Protection Act and environmental reviews of proposed development. The collection or possession of wild corn snakes is prohibited by the New Jersey Endangered Species Act and is punishable with fines and/or imprisonment.