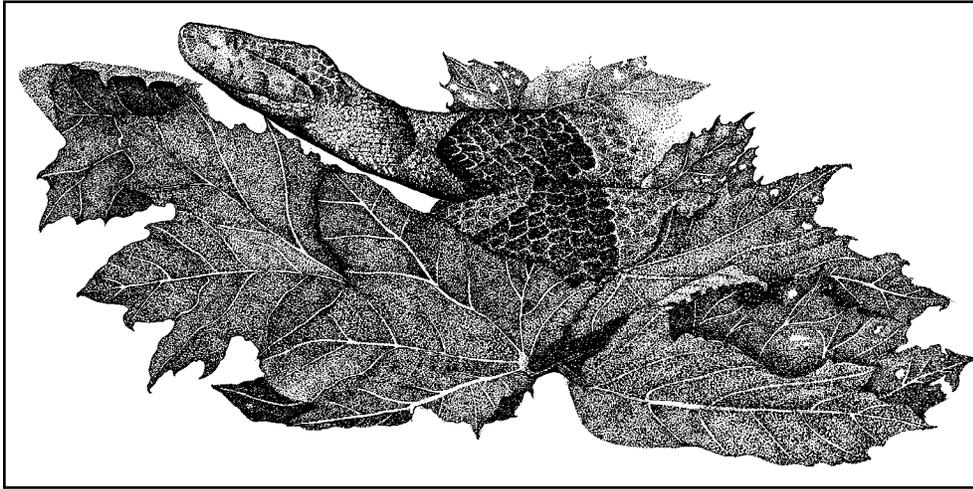


Copperhead Snake

Scientific Name: *Agkistrodon contortrix mokeson*



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Introduction

The copperhead is aptly named, gaining its title from the reddish or copper coloration of its head. It is one of three poisonous snakes found in Ohio. It is the state's most numerous and frequently encountered poisonous snake, residing primarily in southeast Ohio.

However, even though the copperhead does have the potential to inflict harm, it is like most other snakes—nonaggressive. The copperhead will take a defensive posture only when directly threatened. Interestingly, when it is aroused, it may vibrate its tail like a rattlesnake, although it has no rattles. The bite of a copperhead, while painful and capable of producing severe illness, rarely results in death.

The poison that generates such fear in people is an adaptation that helps the snake survive and serve as a valuable part of the environment. Snakes like the copperhead often prey on animals larger than themselves and so there is a distinct advantage in having that animal quiet or immobile, particularly if the animal could hurt the snake. Copperheads are pit vipers, and have large, hollow fangs at the front of their mouth that are connected to the bones of the upper jaw and palate so that they are folded against the roof of the mouth when the mouth is closed and are automatically brought forward when the mouth is opened. These fangs are used to inject venom into the prey. The poison of the copperhead is hemolytic, meaning it causes the breakdown of red blood cells in the bitten animal and this eventually subdues the animal, allowing the snake to easily swallow it.

Snakes are able to swallow prey many times their own diameter because of an unusually flexible jaw mechanism. Further, the snake's digestive juices allow it to digest even bones and fur.

Another unique adaptation of all snakes is the forked tongue. The split, two-pointed tongue, often seen darting from the mouth, is an organ used by the snake to interpret its world; the tongue provides the snake with a sense of touch and smell. Odorous particles adhere to it, the tongue is withdrawn into the mouth, and the tip is projected into a specialized part of the nasal cavity called the Jacobson's Organ. The copperhead also has the advantage of heat sensitive pits near the front and sides of its head. They are located between the nostril and eye. The pits enable the snakes to seek out and strike accurately at objects warmer than their surroundings; this adaptation helps the copperhead prey on nocturnal mammals.

Description

The copperhead as mentioned previously has a red, copper-colored head, but the rest of its body is shaded differently. The body is pinkish to gray-brown with a dark chestnut colored hourglass shaped pattern on the body. This pattern is narrow on top of the back and wider on portions of the side of the body. Like other poisonous snakes, the copperhead has facial pits between its nostrils and eyes, and elliptical pupils. The copperhead is not, like many other poisonous snakes, a rattlesnake.

On average, a copperhead snake is 24 to 36 inches long; an average weight has not been determined. The oldest reported copperhead in the wild was 30 years old. The average life span is much less; according to studies, only five percent live to be older than eight years of age.

Five subspecies of copperhead have been identified in the United States; only two are found east of the Mississippi River. The Northern copperhead is the only subspecies found in Ohio. It also ranges from Massachusetts and Connecticut southward on the Piedmont and highlands to Georgia, Alabama, and northeast Mississippi. Its range continues west through southern Pennsylvania and the Ohio Valley to Illinois. In Ohio its range is basically limited to the unglaciated (southeast) portion of the state. Locally, the home range for a female copperhead is eight acres and 24 acres for a male.

Habitat and Habits

The copperhead will reside in a variety of areas including oak-hickory hillsides with rock crevices and slides, swamp borders, old slab piles from sawmill operations, and the abandoned foundations and wood structures of old buildings. They also show a preference for moist habitats.

Copperheads' primary food is mice. They will also consume small birds, frogs, small snakes, and insects—particularly locusts and moth larvae. Depending on the time of year, these snakes will be active day or night. In the spring and fall when milder temperatures are the norm the snakes are out during the day; conversely, in the heat of summer copperheads come out at night. Overall, they are most active from April to late October.

This snake is social and may overwinter in a communal den with other snakes of its own kind or with other species of snakes including timber rattlesnakes and black rat snakes. Overwinter dens are usually near the top of a rocky ridge on a south-facing slope.

Reproduction and Care of Young

Based on research conducted in Kansas, among this species of snake most females are sexually mature at the age of three. It is unknown at what point males reach sexual maturity.

Courtship and mating occur from late August through October and in late February through April. Females don't mate unless they are receptive, which in this case means their ovaries contain mature egg follicles. However, for those snakes breeding late in the season, fertilization doesn't occur until the female comes out of the overwinter den. The sperm from a fall mating remains inactive, but viable over the winter

in the female's reproductive tract. Mating will occur one time about every other year.

Gestation for copperheads is estimated to be 105-110 days with most snakes born in August and September. Females carrying young are generally gregarious as opposed to barren females and males that maintain a solitary existence. Copperheads are ovoviviparous (eggs develop in the body of the female and hatch within or immediately after being expelled). The female produces large, yolk-filled eggs which are retained within her reproductive tract for a considerable period of development. The developing embryo receives no nourishment from the female, only from the yolk. Just prior to parturition or giving birth, the female will seek out a birthing den. The young are expelled from her body encased in a thin, membranous sac from which they will shortly emerge. Three to 10 young are produced per litter. When they are born the young copperheads are 8 to 10 inches long and weigh less than half an ounce. Although they can't produce the volume that an adult can, newborn copperheads' venom is just as strong as an adults. The appearance of immature copperheads is slightly different from the look they will take on as adults. The head is a duller red and the tail is yellow; the body markings or patterns are the same although lighter in color. The mortality rate for young copperheads is high.

Management Plans

The Division of Wildlife has no specific plan, other than monitoring the results of research conducted by interested scientists, for managing existing populations of copperheads. The Division is working to educate the public and dispel the many negative stereotypes about this and other species of snakes in the state.

Viewing Opportunities

As stated earlier, populations of this snake are restricted to the unglaciated portions of Ohio. This fact coupled with this snake's relatively secretive nature translate into very limited viewing opportunities for the public. Further, the Division advises individuals that frequent the copperhead's natural habitat to exercise caution as the venom from this snake's bite will make you extremely ill, and left untreated carries the potential for death.

Do Something Wild!

The copperhead is among the majority of wildlife species in Ohio that are not hunted. All of these animals are vital parts of our overall ecosystem and contribute to wildlife diversity in the state. Helping us manage and research these species are the generous citizens of Ohio.

With money they either donated through the state income tax checkoff, by the purchase of a wildlife license plate, or their direct contribution to the Endangered Species Special Account, the Division is able to purchase critical habitat essential to sustaining populations of copperheads and other wildlife species.

Contributions to our Endangered Species and Wildlife Diversity Program are accepted throughout the year. To make a donation, please send a check to: Endangered Species Special Account, Ohio Division of Wildlife, 2045 Morse Road, Bldg G, Columbus, Ohio 43229-6693. All contributions, whether made on your income tax return or directly, are tax deductible.

At a Glance

Mating: Males will mate with more than one female; however, the female only mates once, generally every other year.

Peak Breeding Activity: Late August through October and February to April. Sperm is stored until sometime after the female emerges from its overwinter den.

Gestation: Is estimated to last 105-110 days

Young are Born (Parturition): Most in August to mid-September

Litter Size: 3-10 young per litter

Young: Precocial and are on their own after hatching from their membrane

Number of Litters per Year: Generally 1 every other year.

Adult Weight: Unknown

Adult Length: 24-36 inches; the maximum authenticated length is 53 inches.

Life Expectancy: Between 1 and 7 years; only 5 % are known to live beyond 8 years. Oldest recorded was 30 years.

Migration Patterns: Year - round resident; females have a home range of 8 acres and males 24 acres.

Feeding Periods: Depends on time of year. Copperheads are most active April through late October and are diurnal in the spring and the fall, nocturnal in the summer.

Typical Foods: Mice, small birds, frogs, small snakes, and insects.

Native to Ohio: Yes

Active or Potential Nuisance Species: Not generally. Copperheads are not aggressive and prefer to avoid all contact with human beings. When in an area where copperheads occur caution should be taken to avoid an encounter.

The copperhead's presence in the state is stable and this species doesn't have any special management status designation.

