

Central Ratsnake (*Pantherophis alleghaniensis*)

Family Colubridae (Colubrinae)

Subspecies: None currently recognized

Updated 2025



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Juvenile, © Caitlin Lee Daniel

Description/Identification: The Central Ratsnake, formerly the Gray Ratsnake (or Midland Ratsnake), and before this, the “Black Ratsnake”, is a large, heavy-bodied species of colubrid snake measuring in total adult length from about 39.3 to 70.8 inches. The cross-section of the body is loaf-shaped, and the head is somewhat long and narrow, and distinct from the neck and body. There are a total of about 17 scale rows anteriorly and at mid-body, and 15 scale rows posteriorly, and the scales are weakly keeled. The anal plate is divided, and the tongue is forked and black in Wisconsin Central Ratsnakes, but can be a dark reddish, red, or pink in the eastern or western United States. The pupils are normally round, on a dark grayish-brown iris color of the eyes. Central Ratsnakes have 2 rows of subcaudals on the undersides of the tail, past the ventral opening, numbering about 23 to 51 rows. On the inside of the mouth, Central Ratsnakes have one to two rows of tiny, recurved teeth on the maxillae and lower quadrate bones of their upper and lower jaws which are normally covered by a fleshy membrane. These teeth, however, are not large enough to cause anything more than a superficial laceration, however.

Adult Central Ratsnakes have a shiny, dark dorsal ground color, ranging from dark brown, dark gray, yellowish-brown, to glossy black. Suffused in-between the scales may be flecks of white, yellow, orange, or red, and there are about 20 to 24 dark mid-dorsal blotches interspersed with one to two rows of alternating smaller circular or rhombic lateral blotches along the sides. These dorsal colors and patterns are often more evident when the skin and scales are stretched. The labials along the upper jawline, chin, throat, and upper ventral undersurfaces may often be a white, cream, or pale yellow color, and the anterior third or so of the underside and ventral surfaces are a muddier white or cream color with large,

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rectangular darker gray grayish-brown rectangular blotches in two or three rows. At mid-body on the undersurface, this color and pattern gives way to a more solid dark gray or grayish-brown underside. Some subadult to young adult Central Ratsnakes can have more elongated dorsal blotches with lighter isolated circular markings giving them a “motley” pattern.

Hatchling and juvenile Central Ratsnakes are drastically different in their color and patterning when compared to the adults. Hatchling Ratsnakes have a white, tan, gray, or grayish brown ground color with three rows of darker brown, reddish-brown, gray, or black irregular, “H” shaped dorsal and lateral blotches, and their heads are much more heavily mottled with a dark ocular band running through the prefrontal scales. The ventral or undersides of hatchlings are also a cleaner white to grayish with more distinct dark rectangular or checkered blotches, and the ocular bands may fuse or join together to form a connected pair of occipital blotches on back of their necks. The tops of the heads on juveniles or hatchlings is otherwise gray, while in adults, become an unpatterned shiny black or dark brown. This juvenile coloration then becomes much less conspicuous in adult snakes, although in the eastern U.S., may disappear completely, with adults becoming almost uniformly black.

Hatchling Central Ratsnakes may be confused with a number of other juvenile spotted or blotched snake species including neonate or juvenile Northern/Common Watersnakes (*Nerodia sipedon*), which are heavier bodied and have more heavily keeled scales and traverse anterior banding, hatchling Eastern Milksnakes (*Lampropeltis triangulum*), which have smooth scales and brighter red blotches, or juvenile Foxsnakes (*Pantherophis vulpinus*), which are heavier bodied and have cleaner, more rounded blotches. Adult Central Ratsnakes may be confused with Racers (*Coluber constrictor*), which have smooth scales, or other large, dark-colored snakes in Wisconsin such as Eastern Hog-nosed Snakes (*Heterodon platirhinos*), or Northern/Common Watersnakes (*Nerodia sipedon*), but Central Ratsnakes only range into the southwestern quarter of the Driftless Area of Wisconsin.

Male and female Central Ratsnakes are similar in size and appearance, aside from the undersides of the male’s tails tapering more thickly and slowly than females, and presence of their hemipenes in males. There are no subspecies of the Central Ratsnake currently recognized.



© WDNR.

Range and Distribution: The Central Ratsnake occurs from southwestern Wisconsin and southern

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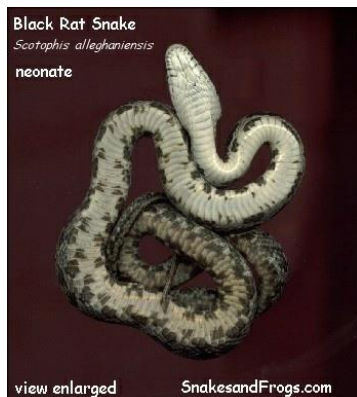
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Michigan in the United States, south through the southern half of Illinois, northern and southern-central Indiana, and Ohio, to portions of southern Ontario, Pennsylvania, and New York, southeast to Alabama, northern Georgia, and Mississippi. To the west of the Mississippi River, the Western Ratsnake (*Pantherophis obsoletus*) occurs to eastern Texas, Oklahoma, Kansas, and extreme southeastern Nebraska, and along the east coast U.S., the Eastern Ratsnake (*Pantherophis alleghaniensis*) occurs to throughout Florida. They were all formerly considered parts of the “*Pantherophis/Elaphe obsoleta*” subspecies complex, and a wide band of integration exists between ranges of the Eastern and Central Ratsnake species complex in the eastern to east-central U.S.

In Wisconsin, Central Ratsnakes occur only in the unglaciated Driftless Region of western and southwestern Wisconsin along the Wisconsin and Mississippi Rivers to the Baraboo Hills region in Sauk and Columbia Counties, and to LaCrosse County along the Mississippi River. This is likely the extent of their range in Wisconsin. Elsewhere in their range in the U.S. the various species of the Ratsnake complex can oftentimes be the most abundant and adaptable “large snake” species, adapting well to even urban or suburban areas. Recent mitochondrial DNA (mDNA) studies have re-assigned Wisconsin populations from the Black Ratsnake (*Pantherophis obsoleta*) to the Central Ratsnake (*Pantherophis spiloides*), although this is likely to change again in the future, with the name “Central Ratsnake” having been proposed.



Black Rat Snake
Scotophis alleghaniensis
neonate

view enlarged

SnakesandFrogs.com

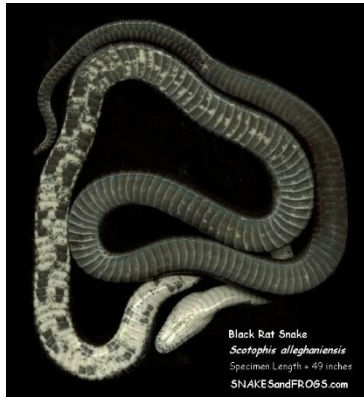
Juvenile Ventral/Belly View (Similar). © Snakesandfrogs.com.

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Adult Ventral/Belly View (Similar). © Snakesandfrogs.com.

Habitat: Central Ratsnakes are forest and woodland dwelling snakes, occupying the cooler, moister wooded east and north slopes of bluffs and open oak woodlands but can be found in warmer, more open or grassy bluff-side prairies earlier in the spring or later in fall before and after emerging from their hibernaculums. Central Ratsnakes are Wisconsin's most arboreal snake species, and climb readily. These snakes have been found in oak or hickory trees, or up into the rafters of garages, barns, or other outbuildings as much as 6 to 12 meters off the ground. They may be found around houses and garages situated amongst suitable river bluff habitat. During the summer, these snakes disperse throughout the river and bluff valleys, and may be found along the edges of fields, prairies, and agricultural lands along or adjacent to forested bluffs nearby.

Feeding and Diet: Central Ratsnakes are carnivorous, feeding on a number of rodents and other small mammals, small birds or nestling to fledgling birds, bird's eggs. They are constrictors, seizing their intended prey with their jaws, and then constricting them, although smaller prey may be simply mechanically overpowered with their jaws, ingesting them live. Hatchling Central Ratsnakes may also eat frogs or other amphibians, or small lizards as well.

Natural History: Central Ratsnakes are primarily diurnal snakes, although during hotter or warmer weather, or on humid nights, can become more nocturnal or crepuscular. In Wisconsin, Central Ratsnakes emerge from their hibernacula from deep within rock crevices, outcroppings, or old stone walls and foundations near the tops of bluffs along with other bluffland associated species such as Timber Rattlesnakes, Bullsnares/Gophersnakes, North American Racers, and Eastern Milksnakes. Mating and copulation occur shortly after emergence in mid to late May through early or mid-June. Mating can take place on the ground, or elevated up to several meters off the ground in branches or vegetation.

Central Ratsnakes are oviparous, laying anywhere from 6 to 22 white oblong eggs in or underneath humid rotting logs, stumps, mulch piles, or large flat rocks, and the young hatch in about 60 days in late August or through September. The young, which measure about 5.5 to 12.0 inches in length, receive no parental care afterwards, and fend on their own immediately upon hatching. Later in May and through the rest of the summer, Central Ratsnakes will then disperse through the river bluff valleys and adjacent farmlands, fields, or prairies, and will forage for food both on the ground, and will climb readily into

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trees, the rafters of barns, sheds, attics, and other buildings in search of prey.

Central Ratsnakes are sometimes referred to as “Pilot snakes”, or “Pilot Black snakes”, from the long-standing fable tale that they will guide other species of snakes to and from their hibernaculums, and other overwintering sites. In truth and actuality, there is no evidence that these snakes are doing this, and they simply are associated with the same hibernaculum sites as many other snake species in the area. Central Ratsnakes are perhaps Wisconsin’s most arboreal of Wisconsin’s snake species, readily taking to trees when threatened or when foraging for food.

If encountered on the ground, Ratsnakes will often “freeze” and form “kinks” along their long bodies, presumably as a means of disrupting the snake’s outline to potential predators. This kinking could be a thermoregulatory behavior as well. Central Ratsnakes are otherwise somewhat slow moving snakes, and if they are cornered or harassed, may assume a strike posture using the anterior third of their body and may continue to bite or chew unpredictably even after a while of being handled. They will also rapidly vibrate or rattle their tails in dry leaves and against objects to create a sound similar to that of a rattlesnake, and may also defecate or emit a bad-smelling musk when handled. Large adults may be placid and docile even upon first being picked up, although other specimens can be more irascible or unpredictable. Nonetheless, all of the Ratsnake species complex are hardy and adaptable snakes in captivity, presenting very few husbandry issues, provided they are otherwise acquired from a legal source.

These snakes, nonetheless, are non-venomous, harmless, and very beneficially both economically and environmentally for their ability to control rodent and other small mammal populations. Central Ratsnakes are an uncommon and difficult to find snake in Wisconsin, owing partly to their more arboreal nature, and partly due to Wisconsin being on the extreme periphery of their range, with the juncture of the Wisconsin and Mississippi Rivers of southwestern Wisconsin generally having the most consistent sightings of these snakes in Wisconsin.

The main natural predators of Central Ratsnakes can include a number of large birds such as birds of prey (hawks, owls, eagles), turkeys, some other snake species, and a number of carnivorous or predatory mammals including weasels, skunks, opossums, raccoons, foxes, coyotes, mink, domestic cats, domestic dogs, and bobcats.

Conservation Status: In Wisconsin, Central Ratsnakes are listed as a “Special Concern”, or “Protected Wild Animal” species under N.R. 16. These snakes are regulated and protected along with all other of Wisconsin’s herptiles under N.R. 16. Central Ratsnakes are currently not protected or regulated federally. Gray, or Midland Ratsnakes are currently IUCN Red-List Least Concern (LC).