

- Wash the bite with soap and water.
- Immobilize the bitten area and keep it lower than your heart.

What *not* to do if bitten by a venomous snake

- Do not attempt to draw venom from a wound.
- Do not cut the wound or apply ice to the bite.
- Do not apply a tight bandage. If medical assistance will take longer than 30 minutes to reach you, wrap a bandage 2-4 inches above the wound to attempt to slow the venom transfer through the bloodstream. Be careful not to tie the bandage too tightly, constricting blood flow. You should be able to slip a finger beneath the tied bandage.

Requesting assistance with a venomous snake

The Division of Fish and Wildlife's Endangered and Nongame Species Program (ENSP) has developed the Venomous Snake Response Team (VSRT) to respond to human/venomous snake interactions and increase an awareness of our responsibilities for living in venomous snake country. The VSRT is a group of trained volunteers that includes animal control officers, park rangers, local and state police, and other select individuals that are on-call to remove venomous snakes from private lands upon request. They also educate landowners about snakes and instruct them on how to live safely in snake country. Snakes are removed from harms way and returned to nearby areas away from human habitation.

Landowners that encounter timber rattlesnakes or northern copperheads on their property and wish to have them removed should contact ENSP immediately through the DEP Hotline:

1-877-WARN DEP (1-877-927-6337)

Do's and don'ts when living or recreating in venomous snake country

Always keep your dog on a leash when in state parks and forests. This is a state law created to protect your pet, NJ's native wildlife and other park visitors. Dogs are active, playful and are instinctive hunters. Dogs may kill ground nesting birds, small mammals, reptiles, and amphibians by running off-trail. They may chase black bears into other hikers or back to you or they may encounter a venomous snake, potentially risking a snake bite.

Stay on the trails when hiking where it is easier to see wildlife in your path. If you live in venomous snake country remain on paved paths, wear leather shoes and use a flashlight at night to scan the walkway in front of you and to the sides. Never walk barefoot!

Do not reach into your shrubs, wood piles or rock walls without first thoroughly looking for the presence of snakes using a stick or broom handle to push vegetation aside.

SNAKES OF NEW JERSEY



Introduction

Snakes have been around for over 100,000,000 years and despite the odds, historically, 23 species of snakes existed in New Jersey. However, most herpetologists believe the non-venomous queen snake is now extirpated (locally extinct) in New Jersey. 22 species of snakes can still be found in the most densely populated state in the country. Two of our snake species are venomous, the timber rattlesnake and the northern copperhead, and the remaining twenty species are non-venomous.

New Jersey's snake populations have declined during the past 50 years for a number of reasons. Habitat destruction in the form of urbanization has been a primary cause, but pollution, changing land use, commercial collecting and human persecution have all contributed to the reduction of our snake populations. The copperhead is a state species of special concern and the rattlesnake is listed as endangered. In fact, the timber rattlesnake is listed as endangered or threatened in all but one northeastern state. Aside from the listed venomous snakes, additionally listed state species include the threatened pine snake and the state endangered corn snake.

All snakes perform an integral ecological role in their control of rodents and insects and are food to other animals such as raccoons, opossums, black bears, coyotes, bobcats, other snakes, hawks and owls. Even mice will nibble on snakes when they are inactive during hibernation.

Snakes are not slimy or wet as some people think, but are actually dry to the touch. Most have a small head compared with the rest of the body, but the jaws are loosely hinged so that the mouth can be extended to swallow objects several times larger than the snake's own head. The non-venomous snakes in New Jersey have a single row of small, even-length teeth which point slightly backward to help hold prey. The venomous rattlesnake and copperhead have two large, hinged, hollow fangs, one on each side of the upper jaw, which may inject venom when they strike. The venom is used to immobilize and kill small prey, mostly rodents. Both of the venomous snakes are members of the pit viper family, which have (an) elliptical pupils and the characteristic heat-sensing pit that is located between the eye and the nostril.

The venomous snakes of New Jersey are feared the most due to misinformation and misunderstanding. Each year many non-venomous snakes are misidentified as venomous snakes and are killed needlessly, but all snakes in New Jersey are protected under the NJ Endangered and Nongame Species Conservation Act (N.J.S.A. 23:2A-1-13), which makes it illegal for anyone to kill, collect, or harass our native snake species. Often, the non-venomous northern water snake is misidentified as the water moccasin (cottonmouth) which does *not* occur in New Jersey.

It is extremely rare for the average citizen to encounter a rattlesnake or copperhead due to their elusive nature, preference for interior forest habitat, small, localized populations, and sensitivity to human disturbance. The chance of being bitten by a venomous snake in New Jersey is far less than being struck by lightning. Those who have been bitten in the last half-century, in most cases have attempted to handle the snake, or more rarely, were walking through venomous snake territory in the dark with inappropriate footwear. However, while still rare, increased development and encroachment into venomous snake territory has increased the likelihood of human-venomous snake interactions.

Dispelling Myths

From historical times to present day Hollywood movies, snakes have been portrayed as evil, aggressive, and sneaky creatures.

Throughout history, no other group of animals has undergone and survived such mass disdain. Today, in spite of the overwhelming common sense and the biological facts that attest to the snake's value to our environment, a good portion of the general public still looks on the snake as something to be feared, destroyed, or at best relegated to glassed-in cages at zoos.

- All snakes can swim, but only the northern water snake and queen snake rely heavily on waterbodies. Northern water snakes are frequently found swimming in waterways and basking on embankments, and are often mistaken for water moccasins, which do not occur in New Jersey.
- Snakes do not chase people. Male snakes *may* defend their mates during the breeding season by moving towards a predator, including people, while the female escapes by moving in the opposite direction. Otherwise, snakes will try to move away from people.
- Snakes do not prefer to be around people. To snakes, people are predators and should be avoided.
- All snakes *can* bite if handled . . . just as all animals *can* bite if handled. Animals bite to protect themselves when they feel threatened.
- Rattlesnakes do not travel in pairs. Although rattlesnakes den communally and may share early-season basking areas, they spend much of their active season alone.
- The Division of Fish and Wildlife did *not* re-establish rattlesnake populations in New Jersey. Timber rattlesnake populations have been steadily declining due to wanton killing, illegal collection, and more recently, habitat destruction and encroachment. Rattlesnakes, copperheads, and many of our non-venomous snakes can not be relocated as they have a strong affinity to their home ranges and most likely will not survive in unfamiliar territory.

Controlling snake presence

- Keep your lawn mowed short to deter snake presence and so you can view potential snake activity at a glance.
- Keep your property free of mulch and debris piles. Mulch is composting material that generates heat as it decomposes, creating a warm, inviting basking area for some snakes. Debris piles attract rodents which attract snakes.
- Remove any food that attracts rodents.
- Some snakes, such as garter snakes and milk snakes, can often be found near homes and in basements. During the summer months, homeowners should make certain that all cracks and crevices in the house and outbuilding foundations are sealed.
- Although not scientifically proven, some people believe the use of aromatic cedar mulch annually deters snake presence on their properties.

Keeping snakes in captivity

- It is illegal for anyone in New Jersey to keep any venomous snake in captivity unless it is at an educational or rehabilitative facility or zoo. These facilities must have the appropriate permit(s).
- It is illegal to capture any snake, or other animal, from the wild and keep it as a pet in New Jersey.
- All owners of captive snakes require permits. The permits can be obtained through the Division of Fish and Wildlife's Exotic and Nongame Permits Office (www.njfishandwildlife.com).

Snakes: Descriptions, Pictures and Range Maps

1. Northern water snake (*Nerodia sipedon sipedon*):



22"-53"L. This is one of the most common snakes in NJ, inhabiting freshwater streams, ponds, lakes, swamps, marshes, and bogs throughout the state. Commonly observed basking communally on logs and rocks along stream banks, this snake is often misidentified as NJ's northern copperhead. The ground color is brown or gray with darker brown, reddish, or black bands on the neck and back. The darker pattern color forms wider bands along the back and slightly narrower bands on the sides, resembling a "reverse" hour-glass pattern. Older water snakes are much darker, usually brown or black with faint remnants of pattern while juveniles' patterns are typically more vivid. They have keeled scales. They give birth to live young in late summer. The water snake often exhibits a highly defensive disposition and can inflict a painful, non-venomous bite if handled.



2. Eastern milk snake (*Lampropeltis triangulum triangulum*):



24"-52"L. The milk snake is a common species found in NJ. It inhabits various habitats including fields, wooded areas, riverbanks, and rocky hillsides. It may be found in barns or other buildings that house rodents. It is often mistaken for NJ's northern copperhead or timber rattlesnake. The ground color is creamy gray with red or brown blotches outlined in black along the back and sides. Commonly, a Y- or V-shaped light patch can be found on the nape of the neck. They have smooth scales. Six to 24 eggs are laid in June and hatch in late August.



3. Coastal plain milk snake intergrade (*Lampropeltis t. triangulum x L.t. elapsoides*):



In southern NJ, the eastern milk snake intergrades with the scarlet snake and is referred to as the "coastal plain milk snake." The milk snake intergrade is a rare species found in southern NJ. It inhabits similar habitats as the eastern milk snake. It may be mistaken for NJ's timber rattlesnake. The ground color may be yellow with orange blotches outlined in black along the back and sides. There is typically no Y- or V-shaped patch on the nape of the neck. They have smooth scales.



4. Corn snake (*Elaphe guttata guttata*):



24"-72"L. The corn snake is a state endangered species found in the Pine Barrens of NJ. It inhabits sandy, forested areas preferring pine-oak forest with an understory of low brush. It may also be found in hollow logs, railroad ties, and foundations of old buildings as well as under boards the "red rat snake."



5. Northern scarlet snake (*Cemophora coccinea copei*):



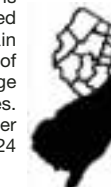
Adult above, juvenile below



6. Eastern kingsnake (*Lampropeltis getula getula*):



36"-82"L. This snake is only found in the southern region of NJ and is considered common. It inhabits borders of swamps and streambeds and can often be found under logs and debris, but will frequently bask in the open. It is frequently referred to as the "chain snake" because of patterned with large white or cream-colored links. They have smooth scales. The kingsnake will eat timber rattlesnakes as well as other reptiles in addition to rodents, birds, and frogs. Three to 24 eggs are laid in June and hatch in August.



7. Northern pine snake (*Pituophis melanoleucus melanoleucus*):



48"-100"L. The northern pine snake is a state threatened species found in the Pine Barrens of NJ. It is limited to sandy habitat as it burrows underground for shelter and egg laying. It is a large snake with white, gray, or cream ground coloration marked with black or

dark brown blotches. The blotches are more clearly defined towards the tail of the snake. They have keeled scales. The pine snake will hiss and defend itself vigorously when threatened and can inflict a painful, non-venomous bite if handled. The pine snake climbs trees readily but spends a considerable amount of time burrowing. Eggs are laid in June and hatch in August; young measure from 15-18" at hatching.



8. Black rat snake (*Elaphe obsoleta obsoleta*):



Adult above; Juvenile below



34"-101"L. This is NJ's largest snake. Like the black racer, the black rat is common throughout the state in rural and semi-suburban areas and is found in very similar habitats. The adult black rat is a long, plain black snake with a white chin and throat and a white or pale yellow belly. It is a slightly more bulky snake than the racer and when the skin is distended, some skin between the scales may appear white. Juvenile black rats are commonly misidentified as timber rattlesnakes as they have a gray ground color with dark brown or gray blotches on the back. They



have weakly keeled scales. These snakes are climbers, and may be found in trees or rock crevices. Five to 24 eggs are laid in June or July and hatch in late-August.

9. Northern black racer (*Coluber constrictor constrictor*):



Adult above; Juvenile below



34"-77"L. Common throughout the state in rural and semi-suburban areas, the black racer can be found in fields or woodlands, and occasionally around residential gardens. The adult black racer is a long, slender, fast black snake with a white chin and throat. Juvenile black racers are commonly misidentified as timber rattlesnakes as they have a gray ground color with dark brown or gray blotches on the back with smaller spots on the sides. The pattern fades and the ground color becomes darker with age. They have smooth scales. Black racers mimic rattlesnakes by vibrating their tails on leaves and

grass when they are threatened. Black racers will eat newborn rattlesnakes as well as other wildlife, and may climb trees to access bird nestlings for food. They are rather defensive snakes that frequently inflict a painful, non-venomous bite when handled. Eggs are laid in June or July and hatch in late-August.



10. Eastern hognose snake (*Heterodon platyrhinos*):



20"-45 1/2"L. This snake occurs statewide, except in metropolitan areas, and is considered uncommon in most parts of the state. It inhabits a variety of habitats with sandy substrate. The most common feature of the hognose snake is its upturned snout, which is used for burrowing. Coloration and pattern vary considerably, but commonly, the ground color ranges from a golden to rusty gray with brown or black rectangular shaped blotches. They have keeled scales. The hognose snake will mimic venomous snakes when threatened by puffing up its body and flattening its head. If the attacker persists, the hognose snake will roll over and play dead, emitting an awful smell to deter the predator from eating it. These snakes usually spend most of their time above ground

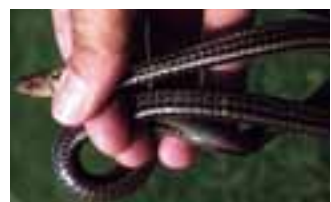


rather than under objects. Four to 46 eggs are laid in June and July, and hatch in late-August through September.

11. Queen snake (*Regina septemvittata*):



15"-36 3/4"L. This snake is an uncommon snake of NJ and believed to be extirpated from our state. They have keeled scales. Historically, the snake was at the edge of its range inhabiting a narrow area adjacent to the Delaware River from just south of Trenton to Gloucester County. The snake dwells where crayfish are available and abundant, including streams and rivers with rocky bottoms. They would be found in the water or basking along the shoreline, or under nearby



rocks or debris. The young are born in September.

12. Northern brown snake (*Storeria dekayi dekayi*):



9"-20 3/4"L. A common snake of NJ that may be found in moist woodlands and lowland habitats and in rural and semi-suburban areas, this snake commonly hides under logs, rocks, and debris on the ground. A vertical dark bar a short distance

behind the eye and two rows of dark spots down the back are key identifying marks. The ground color is light to dark brown or gray, sometimes with a slightly yellowish or reddish tone. They have keeled scales. Eleven to 18 young are born in August and September.



13. Northern redbelly snake (*Storeria occipitomaculata occipitomaculata*):



8"-16"L. Common to the state, but difficult to find, the northern redbelly is a small brown, gray, or black snake with a red, unmarked underside and three pale spots on the neck just behind the head. These spots occasionally run together. The belly is usually red, but may be yellow, orange, or more rarely blue-black. They have keeled scales. This snake can be found in hedgerows, stone walls, fields, bogs, and wood lots.



14. Eastern smooth earth snake (*Virginia valeriae valeriae*):



7"-13 1/4"L. This snake is uncommon occurring primarily in the Piedmont and Coastal Plain regions. It spends most of its life under debris in or near deciduous forests. It has smooth gray or reddish brown

scales with a white belly. It may display black dots or a faint light stripe on the back. They have weakly keeled or smooth scales. Two to four young are born in September.



15. Eastern worm snake (*Carphophis amoenus amoenus*):



7 1/2"-14 3/4"L. The eastern worm snake is found in moist soil under stones, boards, and rotten logs and burrows underground. Distributed statewide in rural and suburban areas, this snake is seldom seen. It resembles the eastern smooth earth snake with

its dull brown ground color. It has a very round body with a pointy head and tail. The underside and the first one or two rows of scales on the lower sides are pink. They have smooth scales. One to five eggs are laid in June and hatch in August.



16. Northern ringneck snake (*Diadophis punctatus edwardsii*):



10"-30"L. The northern ringneck is found statewide in woodland and rocky areas typically under logs, bark slabs and stones. The back is dark with a golden neck collar and the belly is plain yellow, usually dotted with black. They have smooth scales. One to eight eggs are laid in June and July and hatch in late August-early September.



17. Southern ringneck snake (*Diadophis punctatus punctatus*):



7"-18"L. This snake is almost identical to the northern ringneck, inhabiting much of the same environments but has a greater fondness for moist habitats. It, too, can be found under woody or rocky debris. The two differences in this snake's appearance from the northern ringneck is a dark mark cutting through the neck ring and the underside of the southern ringneck is marked with a series of black half-moons running down the midline. They have smooth scales.



18. Eastern garter snake (*Thamnophis sirtalis sirtalis*):



18"- 51 3/8"L. The garter snake is the most common snake found in the state and around residences. They can be found in a variety of habitats including woods, fields, meadows, and near water. Occasionally garter snakes will hibernate under the siding of a home's south facing wall. These snakes are the first to emerge in NJ, and can often be seen in mid-March during

warm spells. The adult garter snake's ground color varies from olive to brown to black and typically has three stripes, one on the back and one on each side extending from head to tail. The stripes are usually yellow, but may be greenish, brownish, or bluish, and stripes are occasionally absent. There is often a black or reddish, checkered pattern between the stripes which is more distinguishable on juveniles. The belly is pale yellow to pale green. They have keeled scales. Young are born in late summer, an individual can give birth to about 30 young and large adults can give birth to more than 30.



19. Eastern ribbon snake (*Thamnophis sauritus sauritus*):



18"-40"L. A common snake of NJ that resembles the eastern garter snake. This snake can be found in semiaquatic areas such as bogs, swamps, and streams. The ribbon snake is distinguished from the garter snake by its longer tail, a much more slender body, and side stripes. The ground color is black or brown and the stripes are bright yellow. The underside is pale yellow to pale green with a brown stripe on the edge of the belly and the first two scale rows on the sides. They have keeled scales. Three to 20 young are born in August.



20. Smooth green snake (*Opheodrys vernalis*):



11 1/8"-26"L. This snake is in NJ's northern region found primarily in grasses, meadows, open woods, and other terrestrial habitats where it blends easily. This snake does not display the climbing ability of the rough green snake. It has smooth, light green scales with a white, yellow, or pale green belly. They have smooth scales. The eggs are laid in July and hatch in September.



21. Rough green snake (*Opheodrys aestivus*):



20"-45 5/8"L. This snake is arboreal, frequently found in vegetation overhanging water in NJ's southern region and is considered common in its limited range. It is very similar in appearance to the smooth green snake except that its scales are keeled giving them a rough texture. It is often called the "vine snake" because of its slender, light green body and plain white, yellow, or pale green belly. Three to 13 eggs are laid in July and August, hatching in August and September.



22. Northern copperhead (*Agkistrodon contortrix mokasen*):



22"-53"L. This is one of two VENOMOUS SNAKES found in NJ. It is an uncommon snake in its range (state species of special concern) inhabiting NJ's northern region extending as far south as the Sourlands of Hunterdon and Somerset counties northeast through localized areas within Somerset and north through western Bergen County.

It inhabits rocky fields, berry thickets, woodlands, farmlands, and even old mulch piles. The copperhead is two shades of copper or a reddish brown, the lighter background color with the darker pattern forming an



Copperhead neonate

died from a copperhead bite in NJ. These snakes will **not** chase you, but they will defend themselves if they feel threatened. **Keep your distance!** They give birth to 6-17 young in mid-August to early October.

hourglass shape, wider bands on the sides of the snake and narrower bands across the back. The head is a solid copper color. Young copperheads have a yellow-tipped tail that acts as a lure for prey. They have weakly keeled scales. No one has ever



23. Timber rattlesnake (*Crotalus horridus horridus*):



35"-74 1/2"L. This is one of two VENOMOUS SNAKES found in NJ. A state endangered species, three populations remain: in NJ's northern region along the Kittatinny Ridge and within the Highlands region and in southern NJ within the Pine Barrens. In northern NJ, the snake is found in rocky, wooded areas and will hunt in open and dense forests. In southern NJ, the snakes inhabit swamps and pine-oak forests, hunting in open and dense forests and occasionally basking on dirt roads. The color varies: 1) yellow phase: ground color is yellow to brown, with black or dark brown jagged "V-shape" bands and blotches towards the head; 2) black phase: similar pattern to yellow phase, but the dark brown to black ground color obscures much of the pattern. The head is unmarked and the last few inches



of an adult's tail are solid black or dark brown. Some timber rattlesnakes may be completely black. They have keeled scales. No one has ever died from a timber rattlesnake bite in NJ. In fact, there are no reported incidents of bites other than to those handling the snakes. The snakes will defend themselves if they feel threatened. **Keep your distance!** Six to 10 young are born in late August to mid-September. All sightings should be reported to the Endangered and Nongame Species Program. Learn more about the venomous snake response team on our website.



What to do if bitten by a venomous snake

If you encounter a venomous snake, you should keep a safe distance (at least 5 feet) and keep young children and pets at your side for control. Tell older children to stay further back.

Venomous snakes may administer a dry bite without injecting venom. This may be done when the strike is in defense rather than for acquiring food. If you are bitten by a venomous snake:

- > Stay as calm as possible.
- > Call 911 immediately and do not attempt to drive yourself to the hospital.