

# POISONOUS Snakes, Insects & Plants IN NORTH CAROLINA



**NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION**

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NOTES

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**IN NORTH CAROLINA**

**Incident Report**

This guide was designed to assist in identifying poisonous snakes, insects and plants found in North Carolina with the objective of avoiding accidents and injuries.

As with most accidents and injuries, prevention is the key to controlling hazards from poisonous snakes, insects and plants. Additional information can be found in SOP 10-17.

**SAFETY PHILOSOPHY**

- All accidents and injuries can be prevented.
- Management/supervisors are responsible, and will be held accountable, for preventing injuries and occupational illnesses.
- Occupational safety and health is part of every employee’s total job performance.
- Working safely is a condition of employment.
- All workplace hazards can be safeguarded.
- Training employees to work safely is essential and is the responsibility of management/supervisors.
- Prevention of personal injuries and accidents is good business.
- Report incidents (accidents, injuries and near misses) immediately.

**CARDINAL RULES**

**These offenses may be grounds for dismissal:**

- Failure to report all incidents (accidents, injuries and near misses) immediately.
- Possession or use of illicit drugs or alcohol.
- Possession of firearms.
- Malicious destruction of NCDOT property.
- Fighting or horseplay.
- Falsification of NCDOT safety documents.

**Date** \_\_\_\_\_ **Time** \_\_\_\_\_

**Location** \_\_\_\_\_

**Employee(s)  
Affected** \_\_\_\_\_

**Description  
of Incident/  
Injury** \_\_\_\_\_

**Description  
of Offending  
Snake/  
Insect/  
Plant** \_\_\_\_\_

**Supervisor’s  
Signature** \_\_\_\_\_

# POISONOUS SNAKES

- **Copperhead** (1)
- **Cottonmouth** (1)
- **Eastern Diamondback Rattlesnake** (1)
- **Timber Rattlesnake** (1)
- **Pygmy Rattlesnake** (1)
- **Coral Snake** (2)

(1) **Pit viper**— characterized by a pit between and slightly below the eye and nostril; long movable fangs; a vertically elliptical pupil; undivided scales on the underside of the tail; and a triangular head.

(2) **Coral snake**— not a pit viper, it is recognized by its distinctive pattern: red, yellow and black rings. A yellow ring separates each red and black ring.



**Poisonous Snake (Pit Viper)**  
Vertically elliptical pupil  
Pit below eye  
Triangular Head



**Nonpoisonous Snake**  
Round Pupil



Snakes range in size from a few inches to more than 8 feet.

Copperheads have the widest distribution; rattlesnakes are found in most states but are not as common as copperheads. Cottonmouths may be common in some areas, while coral snakes have the most restricted distributions.

## What To Do if bitten by a poisonous snake

### **Within the first 30 minutes:**

1. Allow bite to bleed freely for 15-30 seconds.
2. Wash the area with soap and water.
3. Immobilize the bitten area and keep it lower than the heart.
4. Get medical help.

### **If a victim is unable to reach medical care within 30 minutes:**

1. Allow bite to bleed freely for 15-30 seconds.
2. Wash the area with soap and water.
3. Wrap leg/arm past the knee/elbow joint with 3-6 inch Ace bandage. Wrap bandage no tighter than one would for a sprain. Leave fang marks open.
4. Apply suction cup extractor (if available) immediately until there is no more drainage from fang marks. Extractor can be left in place 30 minutes or more if necessary. It also aids in keeping the venom from spreading by applying a negative pressure against the tissue where the venom was initially deposited.
5. If an extractor is not available, apply direct pressure over bite using a 4 x 4 gauze pad (soaked in Betadine<sup>(TM)</sup> solution if available) folded in half twice.
6. Overwrap dressing above and below bite area with ACE or crepe bandage.
7. Check for pulse above and below elastic wrap; unpin and loosen if too tight.
8. Immobilize bitten extremity using splinting if available.
9. Go to nearest hospital or medical facility as soon as possible.
10. If safe to do so, identify, kill and bring offending snake.

## What Not To Do if bitten by a poisonous snake

1. **Do not** remove pressure dressings or bandage until immediately ready to administer antivenom—as soon as the dressings are released the venom will spread.
2. **Do not** eat, drink or use medication without permission from a medical source.
3. **Do not** engage in strenuous physical activity.
4. **Do not** apply oral (mouth) suction to bite.
5. **Do not** cut into or incise bite marks with a blade.
6. **Do not** apply either hot or cold packs.
7. **Do not** apply a narrow, constrictive tourniquet such as a belt, necktie or cord.

## Incident Report

**Date** \_\_\_\_\_ **Time** \_\_\_\_\_

**Location** \_\_\_\_\_

**Employee(s)  
Affected** \_\_\_\_\_

**Description  
of Incident/  
Injury** \_\_\_\_\_

**Description  
of Offending  
Snake/  
Insect/  
Plant** \_\_\_\_\_

**Supervisor's  
Signature** \_\_\_\_\_

## Poison Sumac, Poison Ivy and Poison Oak

### Description

These plants are the most common cause of allergic reactions in the United States and are most dangerous in the spring and summer when there is plenty of sap and the plants easily bruise.

An allergic rash is caused by contact with urushiol, which is found in the sap of all three plants. Urushiol is a colorless or pale yellow oil that oozes from a cut or crushed part of the plant. After exposure to air, urushiol turns brownish-black, making it easier to spot.

Urushiol begins to penetrate the skin in minutes. A reaction appears usually within 12 to 48 hours. Redness and swelling occur, often followed by blisters and severe itching. The rash may take 10 days or longer to heal.

### Prevention

Avoid these types of plants. Wear long pants, long sleeve shirts, boots and gloves. Barrier creams prevent urushiol from penetrating the skin. Since urushiol can travel in the wind, do not burn plants that look like ivy, oak or sumac.

### Treatment

Wash exposed areas with cold running water and *Tecnu* cleansing treatment as soon as possible. Soap and water are helpful and may keep the urushiol from penetrating the skin and spreading if used within the first 30 minutes.

If you bring contaminated clothes into your house, be careful not to transfer the urushiol to rugs or furniture. Wash clothing in a washing machine with detergent.

To relieve itching for mild rashes, take cool showers and apply over-the-counter preparations such as calamine lotion. Over-the-counter hydrocortisone is not strong enough to have any effect. Soaking in a lukewarm bath with an oatmeal or baking soda solution also may ease itching and dry oozing blisters.

In severe cases, prescription cortisone may halt the reaction if used early. If you know you have been exposed and have developed severe reactions in the past, consult your physician.



J.D. Willson/Eric Stine/RW VanDevender photo



Kenneth Kryso photo

## Copperhead

### Description

As most members of the pit viper family, the copperhead is a heavy-bodied snake between 24-36 inches long. It is covered in hour-glass shaped cross-bands which vary in coloration among different populations from copper, pinkish, reddish brown or orange. The tip of the young copperheads' tail is yellow and is flicked back and forth to attract prey.

Although the most common poisonous snake in North Carolina, copperheads are usually not aggressive and their bite is rarely lethal.

### Habitat/Range

Copperheads are found statewide in forests and sometimes in fields.



*J. D. Willson/Eric Stine/RW VanDevender/Mike Dorcas photos*

## Cottonmouth

### Description

These are relatively large heavy-bodied snakes that reach lengths between 30 and 48 inches. Their coloration ranges from olive to brown to black. The young have wide, dark crossbands; however, the adult's coloration is dark so the banding pattern is usually not apparent.

### Habitat/Range

Cottonmouths occupy marshes, swamps and most other aquatic environments in the Coastal Plain and eastern Piedmont.

### Behavior

They closely resemble many of the water snakes but behave differently when confronted. Like other members of the pit viper family, they may shake their tail when aggravated. They are likely to stand their ground while opening their mouth and exposing the light lining of their mouth.

### Warning

The cottonmouth's bite can be fatal.

## Poisonous Plants

- **Poison Sumac**
- **Poison Ivy**
- **Poison Oak**



**Poison Sumac** grows in standing water and swampy areas. Each leaf has 7 to 13 leaflets.



**Poison Ivy** grows as a vine. Each leaf has three leaflets.



**Poison Oak** grows in the East as a shrub. Hair grows on its fruit, trunk and leaves, which have three leaflets.



## Ticks

### Description

Ticks are eight-legged, blood-feeding ectoparasites that are closely related to spiders, scorpions and mites that feed on mammals and birds. Wearing a hat, long sleeve shirts, pants and using an insect or tick repellent will help prevent tick bites.

Most ticks attach and feed for as long as 12 to 24 hours before they fall off. Tick bites can cause local reactions, including skin damage, irritation, inflammation and hypersensitivity. All ticks can carry and transmit disease.

*Lyme Disease* is caused by the bacteria *Borrelia burgdorferi* and is spread by the deer tick. It is one of the most common tick-transmitted diseases in the world. Its most common clinical symptoms are arthritis, anorexia and depression. It can also cause cardiac, neurological and kidney disease.

*Rocky Mountain Spotted Fever* is caused by the bacteria *Rickettsia rickettsii* and is spread by the American dog tick and the wood tick. Symptoms include fever, depression, anorexia, swelling, abnormal bleeding, breathing problems and eye pain.

### Removal

Remove the tick by grasping with fine-pointed tweezers and gently pulling it free. The quicker the tick is removed, the lower the risk of disease transmission.

### Treatment

Antibiotics are used to treat both Lyme Disease and Rocky Mountain Spotted Fever. The prognosis is usually good if the victim receives prompt medical treatment.



Michael Dorcas / J.D. Willson photo

## Eastern Diamondback Rattlesnake

### Description

The Eastern Diamondback is the largest species of rattlesnake in the world. It is a heavy-bodied snake that reaches lengths between 3 and 7 feet. A sequence of large brown or black diamonds outlined with cream colored scales run down its back. This is the only rattlesnake species in North Carolina with two light lines running along its face and two light lines aligned vertically on its snout. The Eastern Diamondback Rattlesnake has a large rattle on the tip of its tail that makes a loud buzzing when the snake feels threatened.

### Habitat/Range

These snakes inhabit flatwoods, abandoned farmland, and sandy woodlands in the southern Coastal Plain.

### Warning

This is probably the most dangerous snake in North America. Its large size enables it to inject a large amount of venom which is highly destructive to cardiovascular tissue. If it is confronted, it will usually rattle and probably hold its ground.



*Kenneth Wray photo*

## Timber Rattlesnake

### Description

Timber Rattlesnakes range in size between 3 and 5 feet. The coloration of this species is blackish, yellowish, pinkish or grayish with dark, bent, crossbands aligned along the dorsal length of its body. A reddish dorsal stripe runs between the crossbands. It has a black tail.

### Habitat/Range

Timber Rattlesnakes inhabit forest, nearby fields, swampy areas and thickets in the Appalachians, upper Piedmont and Coastal regions of the state.

### Warning

Timber Rattlesnakes are not aggressive and are sometimes reluctant to bite. If you encounter this snake, you should leave it alone. Its venom is highly toxic and people have died from its bites.



## Black Widow Spider

### Description

The black widow spider is probably the most widely-recognized poisonous spider in North Carolina. The adult female has a large, shiny black body and red “hourglass” markings on the abdomen. Young black widow spiders are tan to gray in color and have orange and white “racing stripes” on their abdomen. The male spider is smaller than the female and has red and white markings on the back of its abdomen.

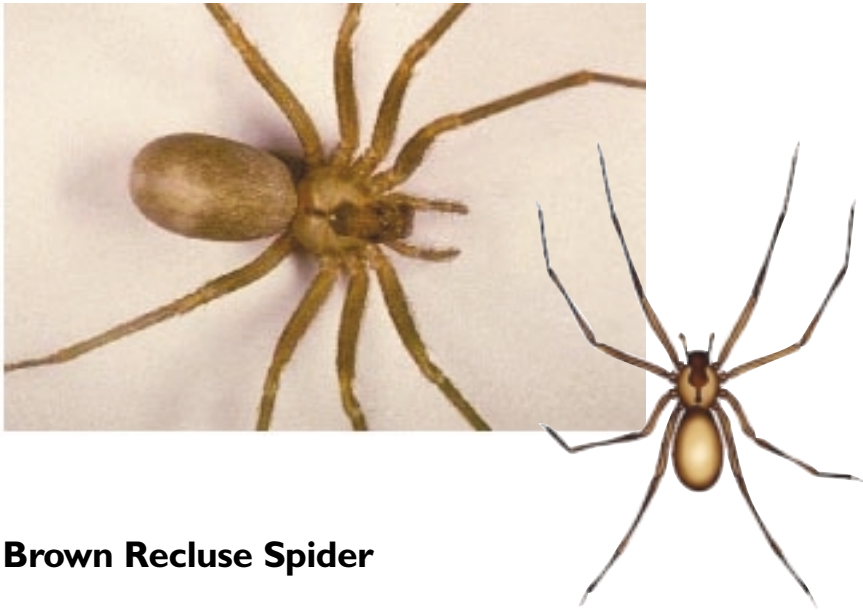
### Habitat

Black widow spiders are found in protected places such as under rocks, wooden boards and in dense plant growth. The black widow spider frequently nest in electrical, water and telephone equipment boxes outdoors and other areas that are damp and dark.

### Type of Damage

Black widow spider venom affects the nervous system. Because the bite is relatively mild, some people may not even realize immediately that they were bitten. The venom causes pain in the lymph nodes. Other symptoms of a severe bite include nausea, elevated blood pressure, sweating, tremors and increased white blood cell counts.

Both male and female spiders bite, however, the adult females produce the most severe bites. Antivenom serum is available but it must be administered as soon as possible after the bite occurs.



## Brown Recluse Spider

### Description

Brown recluse spiders belong to a group of spiders commonly known as violin spiders or fiddlebacks because of a characteristic shiny dark brown or black fiddle-shaped pattern on their head region. This golden brown spider is not hairy, and they are about 1/4 to 3/4 inch long.

### Habitat

The spider commonly lives in basements and garages of houses and often hides behind boards and boxes. Bites often occur when the spiders hide in towels or old clothes left in those areas.

### Type of Damage

The severity of the bite may vary from no harm at all to a reaction that is very severe. Often there is a systemic reaction within 24 to 36 hours characterized by restlessness, fever, chills, nausea, weakness and joint pain. Where the bite occurs, there is often tissue death and skin is sloughed off. In some severe cases, a wound may develop that lasts several months.



*Kenneth Krysko photo*

## Pygmy Rattlesnake

### Description

This small, slender rattlesnake is between 15 and 21 inches long. It's coloration ranges from gray to reddish with a row of dark blotches along the middle of the back. Usually a reddish stripe also runs along the middle of the back. A row of spots is present on the ventrolateral sides of the snakes. This snake has a very small rattle, and its buzzing can only be heard from a few feet away.

### Habitat/Range

Pygmy rattlesnakes inhabit sandhills with oak and pine flatwoods in the Coastal Plain with a few small populations present in the southern Piedmont.



RW Vandevender photo

## Coral Snake

### Description

Coral snakes range between 22 and 47 inches in length. It is encircled by wide red and black bands with a yellow stripe between these bands. The snout is blunt and its head is covered with a black band. Several non-poisonous snakes mimic the Coral Snake. It can be distinguished from these other snakes by the fact that its red band is directly against the yellow stripe.

### Habitat/Range

Small populations of this species inhabit the southern Coastal Plain. Due to its secretive nature, this snake is encountered very rarely. It inhabits pine and scrub oak forests with sandy soils.

### Warning

This snake is the only representative of the family Elapidae in North Carolina. Included in this family are other notoriously poisonous snakes such as the cobras, mambas and sea snakes. The Coral Snake's neurotoxic venom makes it a very dangerous snake. Its teeth are usually unable to penetrate through thick materials such as jeans so people are rarely bitten by these snakes. However, this snake's bite can be lethal, and it should not be handled.

# Poisonous Spiders & Ticks

- Brown Recluse Spider
- Black Widow Spider
- Ticks

