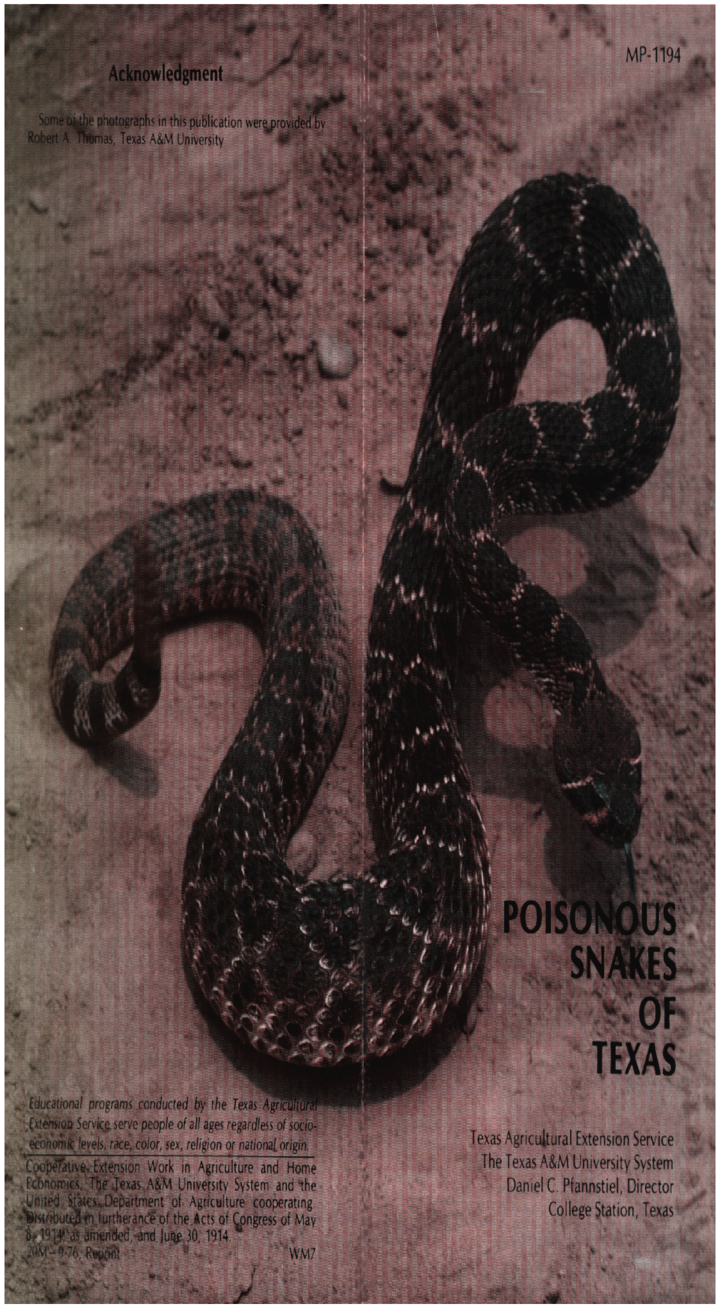

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POISONOUS SNAKES OF TEXAS

Texas Agricultural Extension Service
The Texas A&M University System
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Poisonous Snakes of Texas

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Poisonous snakes of Texas considered dangerous to humans include species from two families, Viperidae (pit vipers) and Elapidae (cobra-like snakes).

Rattlesnakes, copperheads and *cottonmouths* (water moccasins) are included in the pit viper family. Members of this family have a depression or "pit" located between the eye and the nostril on each side of the head. Each pit contains heat-sensitive nerve endings which enable the snake to detect warm-blooded prey, even at night.

Venom of pit vipers is primarily *hemotoxic* because it acts upon the victim's blood system. This venom breaks down blood cells and blood vessels and affects heart action. Bite victims experience severe burning pain, localized swelling and discoloration for the first 3 to 30 minutes, followed by nausea, vomiting, occasional diarrhea and usually shock.

Coral snakes are the Texas representative of the family Elapidae. Their venom is primarily *neurotoxic* because it acts upon the victim's nervous system. Symptoms include muscular weakness, facial paralysis, speech difficulty, labored breathing and vision difficulty. There may be some pain, but little

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Timber, or canebrake, rattlesnake

or no swelling or discoloration. Death from this type of venom usually is due to respiratory failure.

Because the coral snake has small fangs, it usually must bite, hold on and chew to inject a large amount of its venom into a human. However, a large coral snake can strike like a pit viper and bite virtually any part of the body.

Identifying Poisonous Snakes

Poisonous snakes in Texas are recognized easily by a few distinguishing characteristics, some of which are listed below.

Rattlesnake

1. Rattle present, if not lost by mishap.

2. Head distinctly wider than neck and *somewhat* triangular.

3. Stout body; adults range in length from 18 inches in the pygmy rattlesnake to about 7 feet in the western diamondback.

4. Presence of facial pits.

5. Vertically elliptical pupils or "cat-eyes."

6. Colors vary with species but include shades of brown, black, gray, chalky white, dull red, tan and olive green. Rattlesnakes frequently have definite diamond, chevron or blotched markings of particular colors.

7. Large, hollow, movable fangs.

Broad-banded copperhead

Eight species of rattlesnakes live in Texas, and nearly every county has at least one resident species. Most are not aggressive unless disturbed.

Copperhead

1. Reddish-brown crossbands on a lighter background color.

2. Head distinctly wider than neck and *somewhat* triangular.

3. Vertically elliptical pupils or "cat-eyes."

4. Usually small and rather slender; adults range from 20 to 40 inches in length.

5. Hollow and movable fangs.

6. Presence of facial pits.

One species is known in Texas. Copperheads occur throughout the state except for extreme West Texas, the Panhandle and portions of South Texas. These snakes are not aggressive but will strike when molested. They often strike several times in rapid succession and vibrate their tails when disturbed. A young snake may have a yellow tip on its tail.

Cottonmouth

1. Head distinctly wider than neck and *somewhat* triangular.

2. Usually dark olive, black or dark brown in color, with 10 or 15 dark, wide crossbands. The jaw area below the eye is light compared to the dark

color on top of the head. Young snakes are vividly marked, strongly resembling copperheads in pattern, coloration and yellow-tipped tail.

3. Vertically elliptical pupils or "cat-eyes."

4. Adults rather large and heavy, sometimes reaching 5 feet in length.

5. Large, hollow, movable fangs.

6. Presence of facial pits.

Only one species of the cottonmouth or water moccasin resides in Texas. It occurs in the eastern half of the state and in portions of Central and West Central Texas. The cottonmouth usually is found near water and *can bite under water*, contrary to popular belief. Normally it is sluggish, but if molested will quickly draw back its head, open its mouth and expose the white inner-mouth lining. This snake frequently vibrates its tail when disturbed.

Coral Snake

1. Small and slender; adults usually less than 30 inches long.

2. Color pattern consists of yellow, red and black rings encircling the body. Some nonpoisonous snakes, such as the milk snake, have similar markings, but in the coral snake the yellow and red rings always touch each other. Thus the warning, "Red on yellow kills a fellow."

3. Round pupils.

4. Head not distinctly wider than neck.

5. Fangs short and permanently erect.

One species of coral snake is found in Texas, and is most common in the eastern half of the state.

Cottonmouth, or water moccasin, with its young

These snakes usually are inoffensive but will bite if disturbed or handled roughly. Most bites result from handling.

Avoiding Poisonous Snakes

The old saying, "An ounce of prevention is worth a pound of cure," is significant when dealing with poisonous snakes. Avoiding a bite is wiser than having to treat one. Follow these suggestions to help avoid snakebite:

1. Learn to identify the poisonous snakes of Texas. Then leave live snakes alone; do not attempt to capture them, and kill them only when their presence is potentially hazardous to humans.

2. Never handle a "dead" poisonous snake, as it may not be completely dead. Even the reflex action of a dead snake can produce a poisonous bite.

3. Reduce the snake population around residences, summer camps, abandoned houses, wooded areas or water by keeping areas free of brush and trash. Remove piles of boards and rocks, roofing materials and other attractions which furnish cover for snakes. Fill in animal holes, and mow grass frequently. Flower beds and shrubs with ground-level foliage provide attractive hiding places for snakes. Keep dense ground vegetation away from residences.

4. Avoid "snaky" areas such as those listed above. Be careful where you place your hands and feet, and never step over obstacles unless you can

Nonpoisonous milk snake on left; poisonous Texas coral snake on right

Nonpoisonous hognose snake, or puff adder, often mistaken for a poisonous snake

see what is on the other side. Study carefully the spot where you intend to sit or camp. Do not gather campfire wood in the dark.

5. Do not walk through tall grass or heavy brush, especially at night, unless your feet and legs are well protected. Heavy boots, unless they are the commercial, snakebite-proof variety, and loose clothing may deflect but will not prevent completely the penetration of a bite, especially of a larger snake.

6. When camping, sleep as high off the ground as possible. If you must sleep on the ground, camp only in cleared areas.

7. Do not swim or wade in areas inhabitated by poisonous snakes, as snakes can and do bite under water.

8. When walking or boating among trees and bushes in swampy areas, watch for snakes sunning on limbs several feet above ground or water.

9. Be cautious when moving boats left on shore for several hours because they serve as excellent cover for cottonmouths.

10. Do not rely on horsehair ropes or other snake "repellents" to keep snakes away from given areas.

11. Carry a snakebite kit if you are often in snake-infested areas. Do not walk or travel alone in these areas, and keep a vehicle nearby.

Snakes are rarely aggressive toward humans. If you encounter a snake, simply walk away and leave the animal alone. Snakes are not fast-moving

animals, although their elongated bodies may give that impression. A person can outrun an aggressive snake.

It probably is best to kill a poisonous snake found near a residence. Do not try to kill a poisonous snake with a short instrument which brings you within the snake's striking range. (The striking range usually is less than half the snake's length, but may be more in some circumstances.) Blows with a long stick, fishing rod or other long-handled instrument across the animal's back will kill it. Do not handle the snake even after you think it is dead.

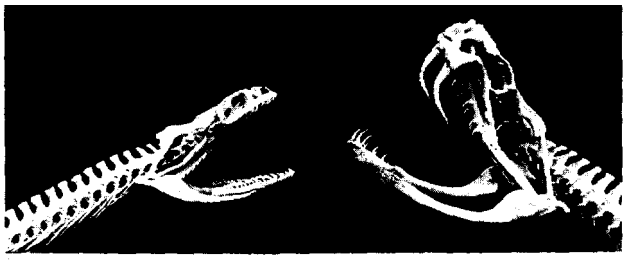
Recognizing Poisonous Snakebite

Because time is very important in treating snakebite, you *must* be familiar with poisonous snake characteristics to identify the animal quickly. If you are unable to identify the snake immediately, it may be wise to kill the animal so that you can examine it closer or take the dead snake with you so the doctor can identify it. Correct identification is imperative if the doctor is to prescribe the proper medication.

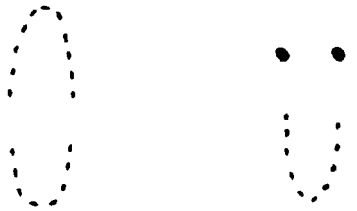
The bite of a poisonous snake often can be identified by the bite pattern or fang marks. *See diagram.* However, if the wound is torn the pattern may be unclear and the identification unreliable.

Above all, try not to panic! Bites of harmless or nonpoisonous snakes do not produce immediate swelling, discoloration, intense burning pain or other symptoms. However, fear and panic can cause emotional disturbances which can induce any of these symptoms.

The death rate from snakebites is very low — less than 1 percent of the approximately 2,400 people



Skeleton of nonpoisonous snake on left; poisonous snake on right



Teeth marks of nonpoisonous snake

Fang and teeth marks of poisonous snake

bitten throughout the U.S. each year — and most people recover quickly, without side effects.

Emergency First Aid for Poisonous Snakebite

Although it is important to obtain medical aid immediately, emergency first aid can retard the spread of poison from the bite. Remain calm and avoid unnecessary movement, especially if someone is with you. The rate of venom distribution throughout your body will be slower if you are still and quiet. *Do not* use home remedies, and *do not* drink alcoholic beverages.

In addition, learn the following procedures so you do not waste time before getting medical attention.

1. If less than 60 minutes is required to reach a hospital or other medical aid, follow this procedure:

a. Apply a constricting band 2 to 4 inches on each side of the bite. The band should be loose enough to slip your finger under without difficulty, so that you do not cut off circulation completely. Properly applied, the constricting band can be left safely in place for one hour without adjustment.

b. If ice is available, place some in a towel, shirt or other piece of cloth and apply it to the bite area. Do not bind it to the bite, but keep it loosely in place. Do not use the ice pack for more than *one hour*. The objective is to cool the venom and slow its action, but not to freeze the tissue.

c. The primary function of the constricting band and ice pack is to slow the spread of venom through your body. Remove them slowly so there will not be a sudden rush of venom through your blood stream.

2. If medical aid is more than an hour away, severity of the bite determines which first aid techniques to use. The greatest need for immediate reduction of the amount of venom occurs when a large snake bites a small person.

There are three variables of snakebite that should guide first aid decisions: 1) amount of venom injected, 2) size of the victim, and 3) time required for the victim to obtain medical aid.

It is difficult even for a doctor to determine the severity of a snakebite through superficial examination. Therefore, the following guidelines are suggested for the most common situations. Size of the snake is an indication of the amount of venom which might have been injected. A large snake produces more venom than a small one. The amount of poison that a snake has in its poison sacks varies. Therefore, size merely indicates the potential problem.

The speed at which the poison takes effect is influenced by its concentration — the amount of poison per pound of victim. A snakebite normally is less dangerous to an adult or large youth than it is to a small child.

A bite by a large snake to a small child demands immediate action and may require use of the cross-cut and suction technique to reduce the amount of poison present in the tissue. A large person bitten by a small snake probably could wait several hours before reaching medical aid without using the cross-cut and suction technique.

The technique should be applied only when the risk demands it. Clumsy or unskilled use of the knife can cause more crippling damage than the snakebite since nerves and tendons may be cut. Obtain trained medical instruction in this technique if you need to be prepared to use it.

Seek medical aid quickly. Keep warm and move as little as possible. If shock should develop, lie down and prop your feet up higher than your head. If you cannot lie down, try bending over with your head near your knees. Give the attending physician as much information as possible about the snake's size and species. Also report any allergies you have, regardless of how insignificant they may seem.

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Cover photograph:
Western diamondback rattlesnake