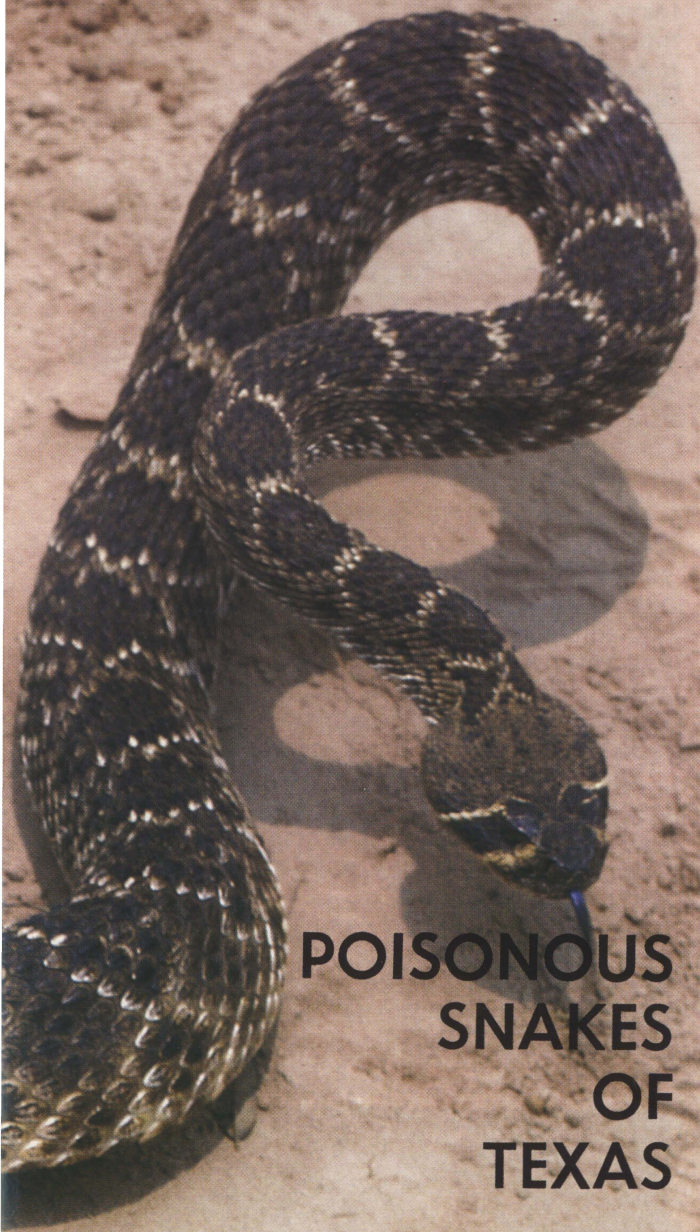


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POISONOUS SNAKES OF TEXAS

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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 or no swelling or

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Timber, or canebrake, rattlesnake

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 *some-what* 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



Broad-banded copperhead

have definite diamond, chevron or blotched markings of particular colors.

7. Large, hollow, movable fangs.

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; a young snake may have a yellow tip on its tail.

2. Head distinctly wider than neck and *some-what* 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.

Cottonmouth

1. Head distinctly wider than neck and *some-what* 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 copper-heads 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 non-poisonous snakes, such as the milk snake, have similar markings, but the coral snake's yellow



Cottonmouth, or water moccasin, with its young

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. 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



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



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

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 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 inhabited 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.

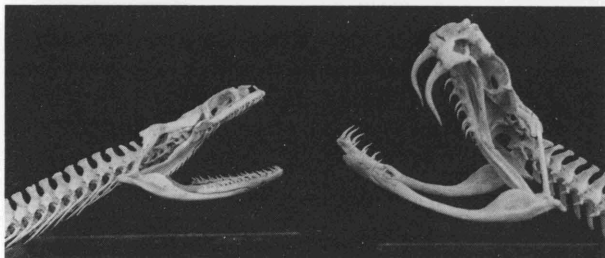
It probably is best to kill a poisonous snake found near a residence. Do not try to kill a poisonous snake with a short instrument which brings you within the snake's striking range. (The striking range usually is less than half the snake's length, but may be more in some circumstances.) Blows with a 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.

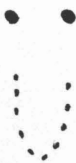
Above all, try not to panic! Bites of harmless or nonpoisonous snakes do not produce immediate swelling, discoloration, intense burning pain or other symptoms. However, fear and panic can cause emotional disturbances which can induce any of these symptoms.



Skeleton of nonpoisonous snake on left;
poisonous snake on right



Teeth marks of
nonpoisonous snake



Fang and teeth marks
of poisonous snake

The death rate from snakebites is very low — less than 1 percent of the approximately 2,400 people bitten throughout the U.S. each year — and most people recover quickly, without side effects.

Emergency First Aid for Poisonous Snakebite

Poisonous or nonpoisonous snakebites should have medical attention. A snakebite victim should be taken to a hospital *as quickly as possible*, even in cases when snakebite is only suspected.

The following information on first aid for snakebite is based on a report prepared for the American Red Cross by the National Academy of Sciences-National Research Council.

American Red Cross



Symptoms

Mild to moderate symptoms include mild swelling or discoloration and mild to moderate pain at the wound site with tingling sensations, rapid pulse, weakness, dimness of vision, nausea, vomiting and shortness of breath.

Severe symptoms include rapid swelling and numbness, followed by severe pain at the wound site. Other effects include pinpoint pupils, twitching, slurred speech, shock, convulsions, paralysis, unconsciousness and no breathing or pulse.

First Aid

1. *Get the victim to a hospital quickly.* Meanwhile, take the following general first aid measures:

- Keep the victim from moving around.

- Keep the victim as calm as possible, preferably lying down.
- Immobilize the bitten extremity and keep it at or below heart level.

If a hospital can be reached within 4 to 5 hours and no symptoms develop, this is all that is necessary.

2. *If mild to moderate symptoms develop, apply a constricting band 2 to 4 inches above the bite but NOT around a joint (i.e. elbow, knee, wrist or ankle) and NOT around the head, neck or trunk. The band should be from $\frac{3}{4}$ to $1\frac{1}{2}$ inches wide, NOT thin like a rubber band. The band should be snug, but loose enough to slip one finger underneath. Be alert to swelling; loosen the band if it becomes too tight, but do not remove it. To ensure that blood flow has not been stopped, periodically check the pulse in the extremity beyond the bite.*

3. *If severe symptoms develop, incisions and suction should be performed immediately. Apply a constricting band, if not already done, and make a cut in the skin with a sharp sterilized blade through the fang mark(s). Cuts should be no deeper than just through the skin and should be $\frac{1}{2}$ inch long, extending over the suspected venom deposit point (because a snake strikes downward, the deposit point is usually lower than the fang mark). Cuts should be made along the long axis of the limb. DO NOT make cross-cut incisions; DO NOT make cuts on the head, neck or trunk. Suction should be applied with a suction cup for 30 minutes. If a suction cup is not available, use the mouth, but it is recommended that the venom NOT be swallowed and that the mouth be rinsed.*

If a Hospital Cannot be Reached Within 4 to 5 Hours

1. Continue to try to obtain professional care by transportation of the victim or by communication with a rescue service.

2. *If no symptoms develop, continue trying to reach the hospital and give the general first aid described above.*

3. If ANY symptoms develop, apply a constricting band and perform incisions and suction immediately, as described above.

Other Considerations

1. *Shock.* Keep the victim lying down and comfortable and maintain body temperature.

2. *Breathing and heartbeat.* If breathing stops, give mouth-to-mouth resuscitation. If breathing stops and there is no pulse, cardiopulmonary resuscitation (CPR) should be performed by those trained to do so.

3. *Identifying the snake.* If the snake can be killed without risk or delay, it should be brought, *with care*, to the hospital for identification.

4. *Cleansing the bitten area.* The bitten area may be washed with soap and water and blotted dry with sterile gauze. Dressings and bandages can be applied, but only for a short period of time.

5. *Cold therapy.* Cold compresses, ice, dry ice, chemical ice packs, spray refrigerants and other methods of cold therapy are NOT recommended in the first aid treatment of snakebite.

6. *Medicine to relieve pain.* A medicine *not containing aspirin* can be given to the victim for relief of pain. DO NOT give alcohol, sedatives, aspirin or other medications.

7. *Snakebite kits.* Keep a kit accessible for all outings in snake-infested or primitive areas.

Acknowledgment

Some of the photographs in this publication were provided by Robert A. Thomas, Texas A&M University.

**Cover photograph:
Western diamondback rattlesnake**



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