



CONSERVATION NOTES

SNAKES

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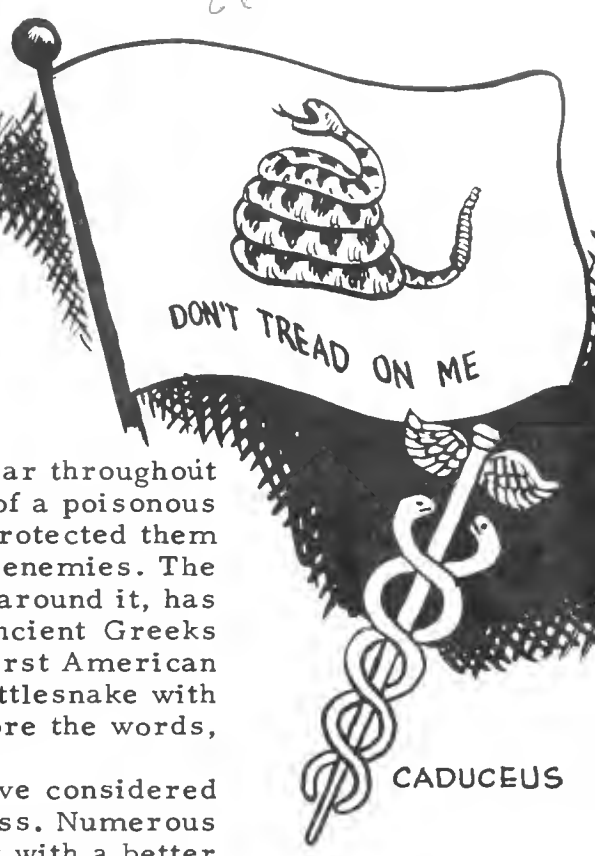
But most persons throughout the centuries have considered the snake as a symbol of evil or repulsiveness. Numerous superstitions are still connected with snakes, but with a better understanding of the life habits of these creatures, the foundations of such superstitions can be destroyed.

Food

All snakes eat other animals. Some small snakes feed primarily on earthworms and insects, but certain larger snakes prefer frogs, lizards, fish, or birds. Many take numerous rats and mice. Strangely enough, many snakes are fond of eating other snakes.

Snakes have various ways of catching their food. One of them, the worm snake, burrows through the ground to eat earthworms and grubs. Many snakes simply grab their prey with their teeth and swallow it. Some snakes kill by constriction. When one of these catches an animal, it throws coils of its body around the victim and squeezes, causing death by suffocation. Poisonous snakes have the most specialized method of killing their prey. These snakes strike an animal and inject poison through long hollow teeth or fangs.

After killing its prey, a snake is faced with the big job of eating it. Since snakes don't have hands and cannot chew up their food, they must swallow it whole. Snakes are well adapted for this and can swallow animals that are larger around than they are. The elastic nature of their mouth allows the jaws to be greatly expanded.



CADUCEUS



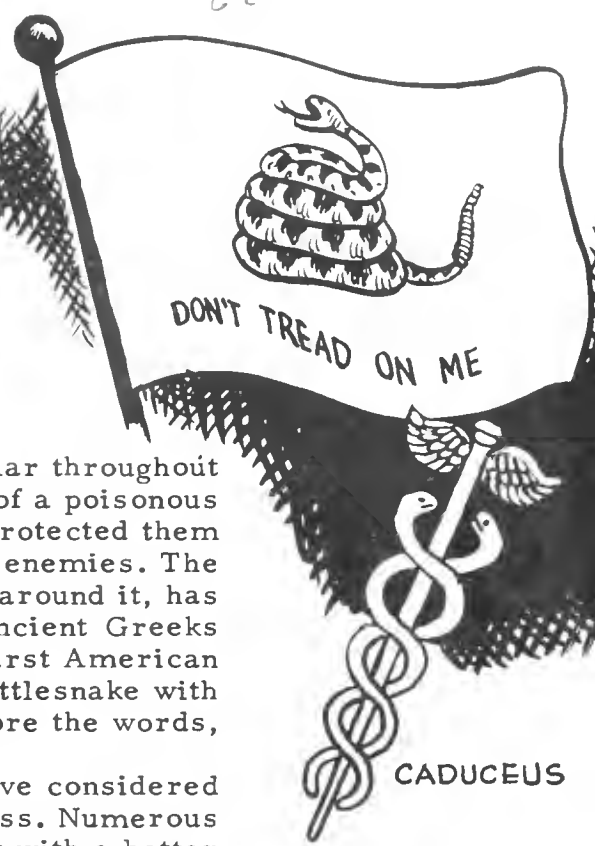
UNITED STATES DEPARTMENT OF THE INTERIOR
 Stewart L. Udall, Secretary
 FISH AND WILDLIFE SERVICE





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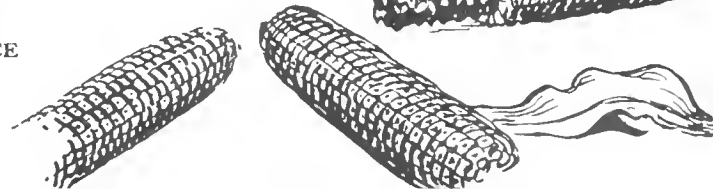
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A RATTLESNAKE DEN IN EARLY SPRING

The teeth also help a snake to swallow its food. They are curved backward and a snake works each side of its jaws back and forth to "walk" the food right down its gullet. After the food passes the teeth, powerful body muscles take over and work the food into the stomach. Snakes have very strong digestive systems and can even digest some bones. After large meals, some snakes have gone as long as a year or more without eating. They commonly spend several days or a week between meals.

Hibernation

Snakes, like other reptiles, are cold-blooded animals, and are very sensitive to variations in temperature. They depend upon the heating and cooling effects of their surroundings for the control of body temperature. A snake placed in the hot sun soon dies. That is why many kinds of desert-dwelling snakes are nocturnal, coming out of holes and other shelters to hunt only at night. This cold-blooded feature of snakes is also the reason why thousands of them are killed by automobiles. Roads absorb heat during the day and retain this heat well into the night. Snakes crawl out onto these roads to get warm and this places them in danger of being run over by cars.

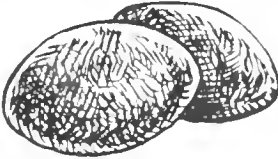
Since snakes cannot stand extremes in temperature, they must have protection from winter cold. They get this protection by hibernating below the frost line. Rocky crevices, holes under stumps, and animal burrows are all utilized by hibernating snakes. Many snakes hibernate alone, but some of them, including bullsnakes, blacksnakes, rattlesnakes, and copperheads, hibernate in large groups. During the first warm days of spring, snakes often come out of hibernation to sun themselves. If a late cold spell moves in, they just retreat back into their den and wait until warm weather returns.

Reproduction

Most snakes mate within a month after coming out of hibernation, but mating in the fall does occur in several species. Some snakes lay eggs while others give birth to their young. Snake eggs are usually laid in warm, damp places. They are tough and leathery, and may vary in number from two for some snakes up to two dozen or more for others. After laying the eggs, female snakes usually take no more interest in them, but some species guard their nests until the eggs hatch. The time required for hatching varies from a few days up to three months or more. Before they hatch, baby snakes grow a sharp projection, called an "egg tooth", which points forward from the top of the mouth. They use this "egg tooth" to cut their way out of the tough shell. A snake is independent from the time it enters the world. Snakes never receive any parental care. They are able to catch their own food, and young poisonous snakes have effective fangs and venom at birth.



FOX SNAKE EGGS -
NEWLY LAID



THE SAME EGGS -
READY TO HATCH



FOX
SNAKE



WORM
SNAKE

Shedding of Skin

Snakes shed their skin for the first time within a few days after being born or hatched. A snake's skin does not grow like that of a warm-blooded animal, so it must be shed as the snake gets larger. Older snakes frequently shed their skin even when growth is slow.

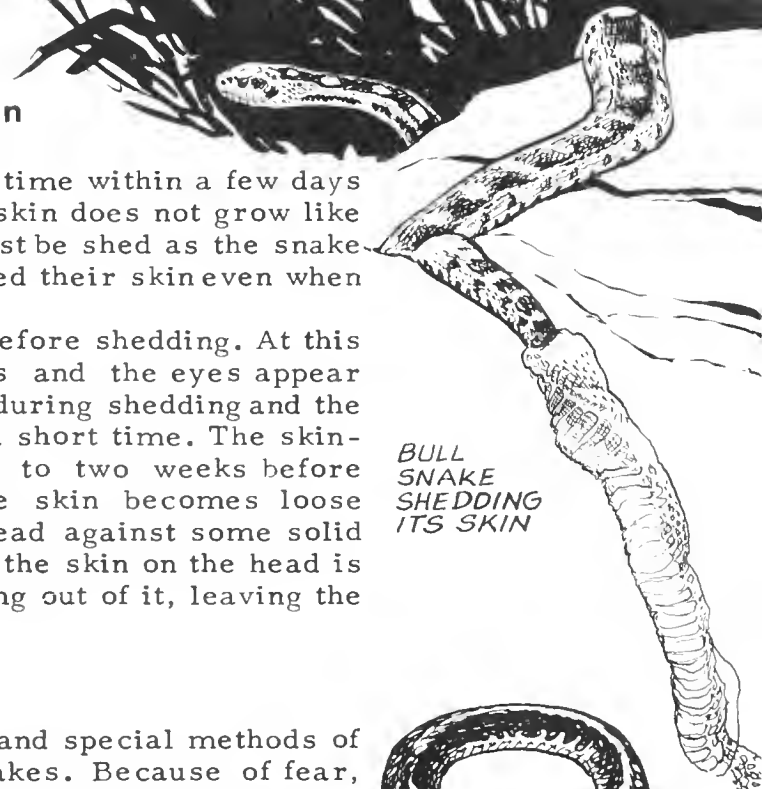
A snake takes on a dull coloration before shedding. At this time, the scale over the eye loosens and the eyes appear cloudy. A snake's eyesight is impaired during shedding and the animal may become almost blind for a short time. The skin-loosening period may take ten days to two weeks before shedding can be completed. When the skin becomes loose enough, the snake begins to rub its head against some solid object such as a rock or stick. Once the skin on the head is worked loose, the snake starts crawling out of it, leaving the skin "wrong side out."

Enemies

Man's wholesale habitat destruction and special methods of killing are the worst enemies of snakes. Because of fear, many people kill every snake they can, never realizing that the animal may have definite value. Very few snakes are actually in conflict with man's interests, and some kinds are beneficial. Man's agricultural practices have often proven very harmful to snakes. The burning of woods, fields, and brushpiles, along with mowing of meadows and field borders, has been responsible for killing many of these creatures.

Several kinds of livestock are destructive to snakes. Chickens, ducks, turkeys, and geese will eat young snakes, and pigs are well known for their snake killing ability. Automobiles may account for the death of more snakes than anything else that man has created. Scientists have estimated that in one southern California county alone, 10,000 snakes are killed each year by cars.

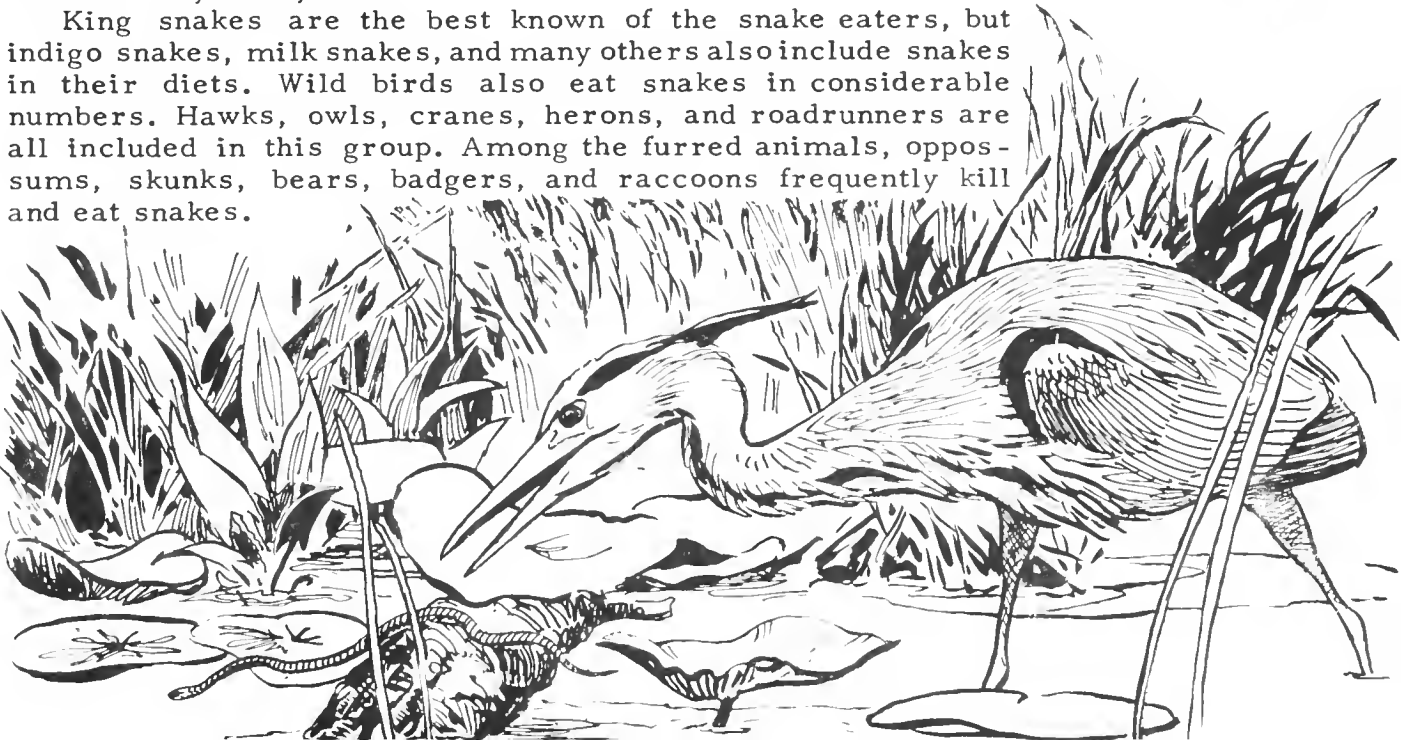
King snakes are the best known of the snake eaters, but indigo snakes, milk snakes, and many others also include snakes in their diets. Wild birds also eat snakes in considerable numbers. Hawks, owls, cranes, herons, and roadrunners are all included in this group. Among the furred animals, opossums, skunks, bears, badgers, and raccoons frequently kill and eat snakes.

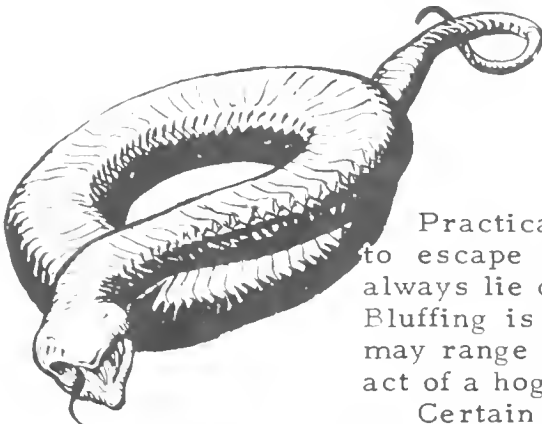


BULL
SNAKE
SHEDDING
ITS SKIN



COMMON
GARTER
SNAKE





HOG-NOSED SNAKES USUALLY FLIP OVER ON THEIR BACKS WHEN "PLAYING DEAD."

Defense

Practically all snakes depend on crawling away or hiding to escape their enemies. Even the poisonous ones almost always lie quietly or get out of the way if given the opportunity. Bluffing is the second line of defense for most snakes. This may range from the hissing of a bullsnake to the "playing dead" act of a hog-nosed snake.

Certain kinds of snakes will sometimes roll themselves into a ball when approached by an enemy. With its head pulled into the center of this ball, a snake is fairly well protected by the loops and folds of its body. This defense is not too effective against larger enemies. Actual biting is a last ditch defense for most snakes. This is true among non-poisonous as well as poisonous varieties. Many non-poisonous snakes have several rows of sharp teeth capable of causing small punctures and scratches. Probably the best known defense in snakes is the striking and biting practiced by poisonous varieties.

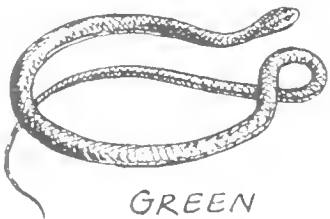


RUBBER SNAKE

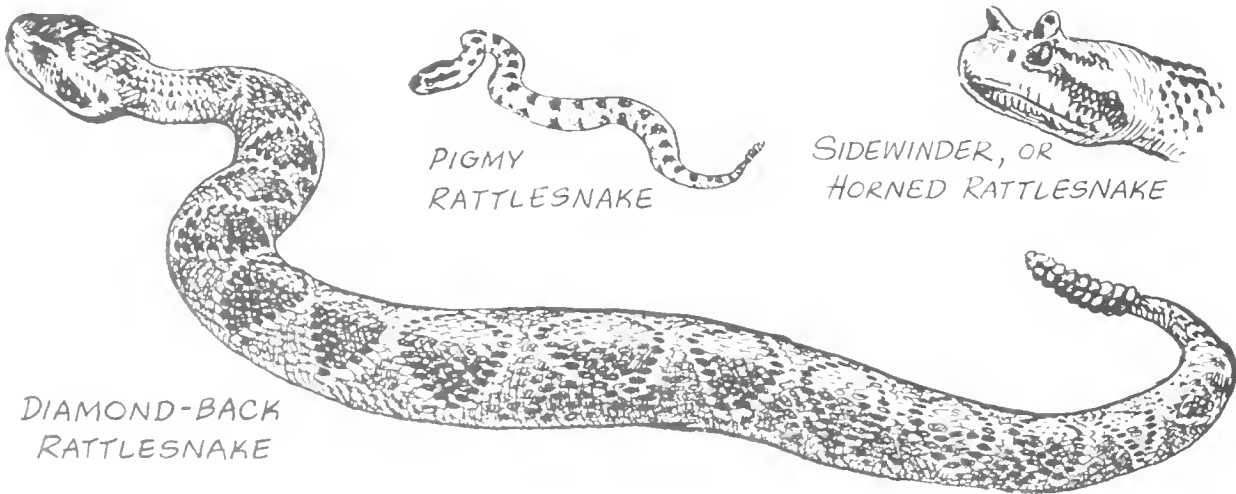
Poisonous Snakes

Rattlesnakes, copperheads, and water moccasins represent the pit viper family of snakes in the United States. Snakes belonging to this family have a deep pit on each side of their head between the eye and the nostril. These pits give the family its name. Pit vipers have fangs that can be folded back against the roof of the mouth. Pit vipers native to this country have a poison that is hemotoxic, which means that it attacks the victim's blood stream.

Rattlesnakes are the best known poisonous snakes of the United States. They are distributed from coast to coast and from Canada well into South America. Only a few areas within the United States are outside the known range of one or more species of rattlesnake. The largest rattlesnake in this country is the eastern diamondback, which may attain a length of eight feet. The smallest is the pigmy rattler, which rarely exceeds twenty-four inches. Between these extremes, there are over a dozen additional kinds of rattlesnakes in the United States.



GREEN SNAKE




DIAMOND-BACK RATTLESNAKE



PIGMY RATTLESNAKE



SIDEWINDER, OR HORNED RATTLESNAKE

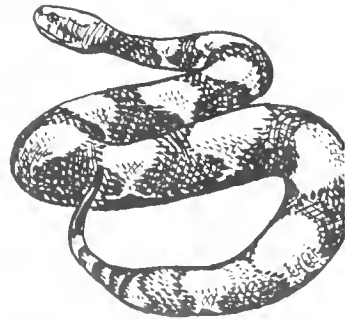


Adult rattlesnakes feed primarily on warm-blooded prey, but frogs, lizards, and other cold-blooded animals are also important foods, particularly for young rattlesnakes. Rattlesnakes are so called because of the rattles on the end of their tails. The sound of these rattles is not caused by "beads" on the inside, but comes from the individual horny segments that rattle against one another. A new segment is added each time the snake sheds its skin, and since shedding may take place three or more times each year, the number of rattle segments will not tell a rattlesnake's age.

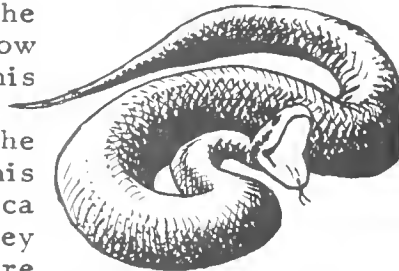
Copperheads are found south of the Great Lakes region and from the plains states eastward. They live in terrain varying from lowland swamps up to the rocky ridges of the Appalachian Mountains. Copperheads are not large snakes and seldom exceed three feet in length. Their common name comes from the brassy-brown color of the head. These snakes are not too particular about the food they eat. Small rodents form a large part of the diet, but frogs, lizards, and other snakes are eaten when available. Copperheads also eat considerable numbers of insects.

The water moccasin or cottonmouth is a large, heavy bodied snake that lives in lakes, swamps, and streams of southern states. An excellent swimmer, the water moccasin feeds primarily on fish and frogs. It also feeds to a lesser extent on lowland mammals, birds, salamanders, and reptiles. The water moccasin gets the name cottonmouth from its habit of showing the white lining of its mouth when disturbed. The water moccasin is a fair climber and often suns itself on low limbs overhanging the water. Like all pit vipers in this country, water moccasins give birth to their young.

The coral snake is the only poisonous snake native to the United States that does not belong to the pit viper family. This brilliantly colored creature is related to the cobras of Africa and Asia. A coral snake's fangs cannot be folded back and they are much shorter than those of the pit vipers. Since they are shy and secretive, coral snakes are seldom seen and bites from them are rare. Coral snake venom is neurotoxic, which means that it attacks the nerves. This is probably the deadliest snake venom found within the United States. Coral snakes are egg layers and their food consists primarily of lizards and snakes.

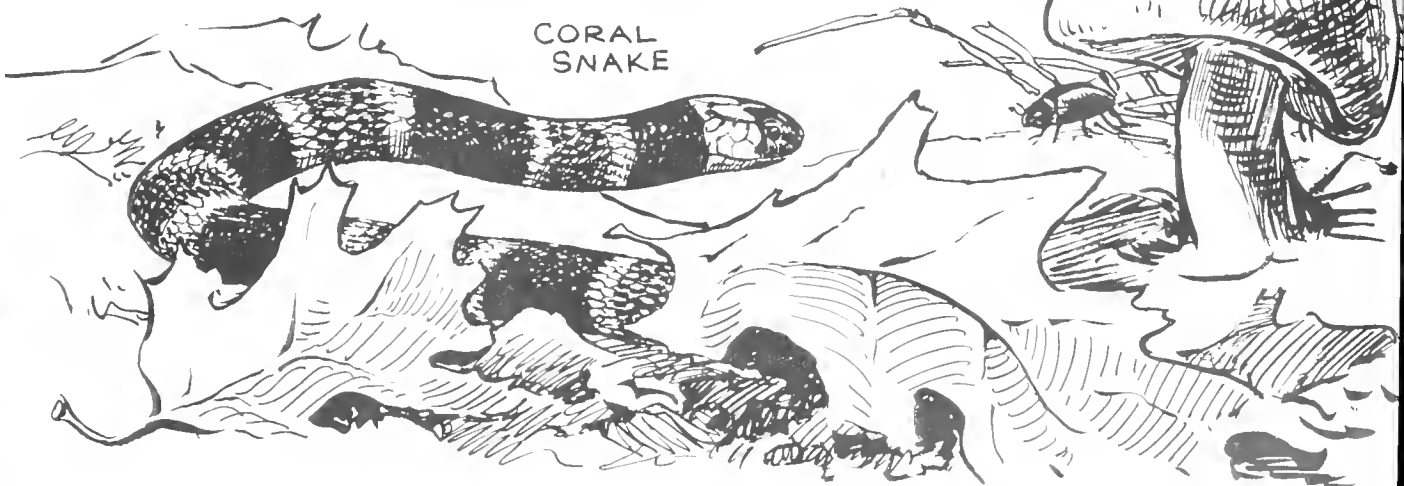


COPPERHEAD

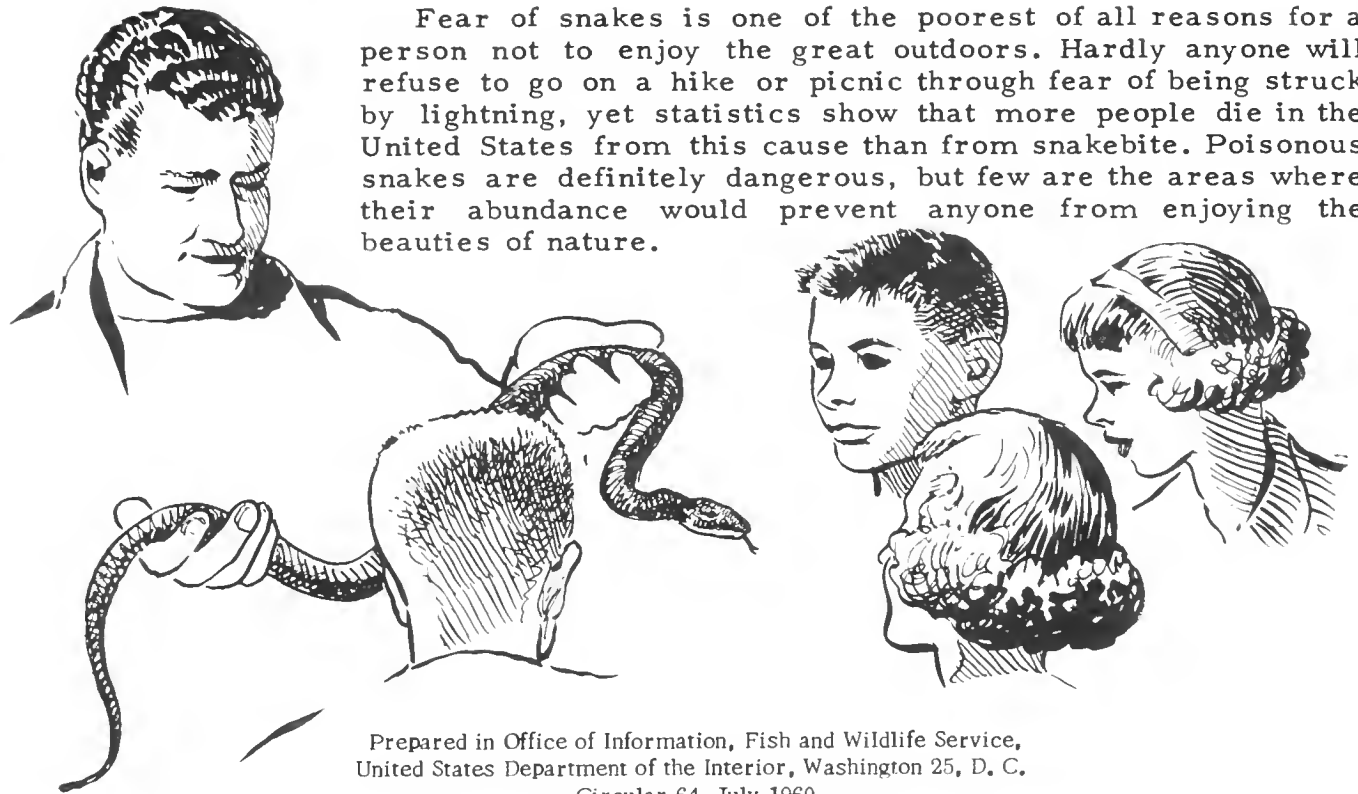


COTTONMOUTH

CORAL
SNAKE



Fear of snakes is one of the poorest of all reasons for a person not to enjoy the great outdoors. Hardly anyone will refuse to go on a hike or picnic through fear of being struck by lightning, yet statistics show that more people die in the United States from this cause than from snakebite. Poisonous snakes are definitely dangerous, but few are the areas where their abundance would prevent anyone from enjoying the beauties of nature.



Prepared in Office of Information, Fish and Wildlife Service,
United States Department of the Interior, Washington 25, D. C.
Circular 64, July 1960

GPO 896234

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