

Venomous and nonvenomous

# Snakes of Florida



PHOTOGRAPHS BY KEVIN ENGE

Top to bottom: Black swamp snake; Eastern garter snake; Eastern mud snake; Eastern kingsnake

Florida is home to more snakes than any other state in the Southeast - 44 native species and three nonnative species. Since only six species are venomous, and two of those reside only in the northern part of the state, any snake you encounter will most likely be nonvenomous.



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Some snakes, especially rat snakes and corn snakes (above), are excellent climbers and can easily scale trees and walls. Stout, heavy-bodied snakes, such as pit vipers, are poor climbers and spend most of their time on the ground or in the water. Snakes' scales are not separate pieces but are formed from folds of a single layer of skin. Healthy snakes tend to shed their skins in one piece as the Apalachicola kingsnake (below) has done.

Florida has an abundance of wildlife, including a wide variety of reptiles. This state has more snakes than any other state in the Southeast – 44 native species and three nonnative species. They are found in every habitat from coastal mangroves and salt marshes to freshwater wetlands and dry uplands. Some species even thrive in residential areas. Anyone in Florida might see a snake wherever they live or travel.

Many people are frightened of or repulsed by snakes because of superstition or folklore. In reality, snakes play an interesting and vital role in Florida's complex ecology. Many species help reduce the populations of rodents and other pests.

Since only six of Florida's resident snake species are venomous and two of them reside only in the northern part of the state, any snake you encounter is most likely nonvenomous. However, like any wild creature, if you come across a snake, it is best to admire it from a distance and not try to touch or capture it.

### What is a snake?

Snakes are reptiles, and like some other reptiles such as lizards, turtles and alligators, they are covered with hard, dry scales. The scales of a snake may be smooth and shiny or rough and dull, but they are not slimy. These scales are not separate pieces, like fish scales, but are formed from folds of a single layer of skin. Each snake species has a unique scale pattern.

The scales may be either smooth or keeled. Smooth scales are shiny

and reflective and are frequently iridescent. Keeled scales have a central ridge and are rougher and duller than smooth scales.



KENNETH L. KRYSIWO

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Snakes don't get more scales as they grow; the scales just get larger. Several times a year, snakes shed the outside layer of skin as they grow.

Snakes do not have eyelids that move, so they can't blink or close their eyes. Their eyes are covered by a single transparent scale called a spectacle. When snakes are about to shed their skins, the scale over their eyes becomes cloudy or "bluish."

The most distinctive visual trait of snakes is their narrow, long body and lack of legs. Some lizards do not have legs and are mistaken for snakes, but glass lizards have eyelids and ear openings.

Snakes have between 200 and 400 bones in their backs, each with a pair of ribs, enabling them to bend and glide easily. Their size and flexibility enable them to crawl through tunnels, over the ground, through water and up trees to find prey and hide from predators.

All snakes are carnivores – they eat other creatures rather than plants. Some prey on insects, spiders and earthworms, whereas the larger species may eat birds, frogs and rabbits. Some species prefer to eat other snakes, including rattlesnakes!

Since snakes do not have feet to capture or hold their food, they have needlelike teeth that curve back-



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The eastern kingsnake eats other snakes, including rattlesnakes (above) and is immune to their venom.

wards so their prey cannot escape. Their flexible head and jaws enable them to swallow prey whole, including animals wider than their own body.

Snakes do not have ears or ear openings, but they can sense vibrations through bones in their head. Some snakes – those that travel above ground – have very good vision, while burrowing species may be able to see just shadows.

Reptiles, including snakes, are ectotherms, commonly known as cold-blooded. They are not able to maintain their body heat internally like mammals and birds but must control their temperature by basking in the sun when it's cold or resting in the shade when it's hot. This means they have lower metabolic rates and need much less food than a similarly-sized mammal.

Because they are unable to maintain their body temperature, snake species are active during different seasons and different times of the day. They may be inactive during cold winters (brumation) and hot summers (aestivation). Living in Florida's moderate temperatures means most snakes are active some part of each month in most areas.



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Most species are more likely to be active in the middle of the day in winter and more active in the morning and evening during summer.

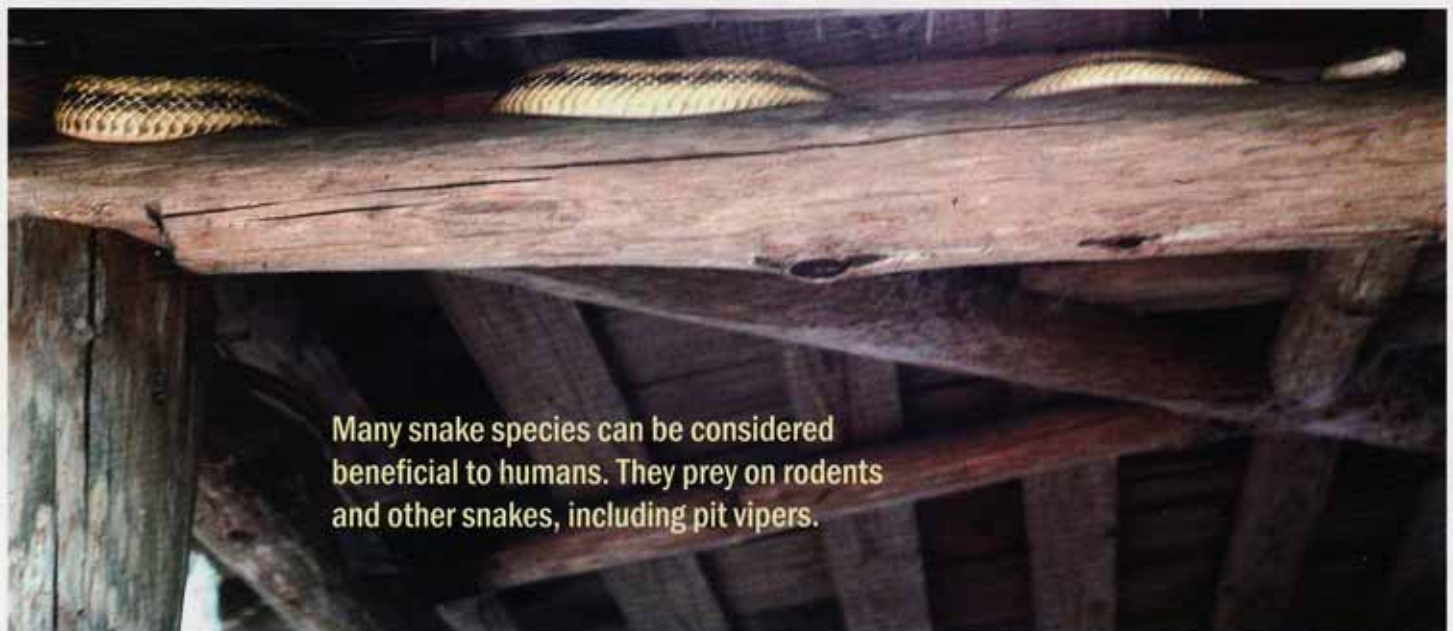
Like mammals and birds, male snakes mate with females by way of internal fertilization. About half of Florida's snake species lay eggs (oviparous), while the others give birth to live young (ovoviviparous).

Most young snakes emerge by late summer or early fall. The females of some species stay with the eggs until they hatch, and some pit vipers protect their newborns for hours or days. Some snakes change colors and patterns as they mature, so some young snakes look different than adults.



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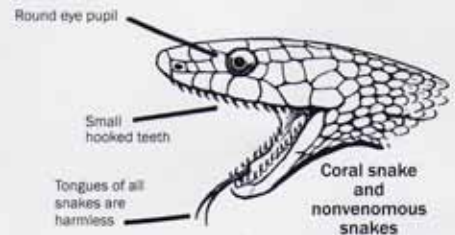
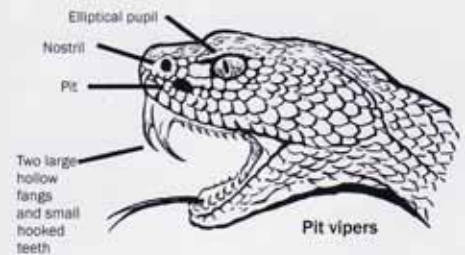
An eastern kingsnake (above) lays eggs. Snakes' eggs are not hard like birds' eggs. They are soft and leathery. Baby snakes use a special "egg tooth" to slit open the egg. They lose this tooth soon after they have hatched. Harmless snakes have many defense mechanisms, including emitting foul-smelling musks, thrashing about and playing dead. Unfortunately, many harmless species imitate venomous species and may vibrate their tails, raise their heads "cobra-style" and open their mouths. Some have markings that may be confused with venomous species, such as the scarlet kingsnake (left) that has red, yellow and black bands but can be identified as harmless by its red snout. Rat snakes are found in almost every Florida habitat. Yellow rat snakes (below) tend to be orange-tinted with four dark stripes running down the body.



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Many snake species can be considered beneficial to humans. They prey on rodents and other snakes, including pit vipers.

# Florida's Venomous snakes



Pit vipers are named for their trademark heat-detecting pits between each eye and nostril. They can detect temperature differences as slight as 0.003 degrees C.

shaped markings on their back and an arrowhead-shaped head much wider than the neck. Brittle segments of dead tissue form a rattling mechanism at the end of the tail – the signature rattle.

The diamondback occurs throughout Florida and on many coastal islands. Its preferred habitat is palmetto flatlands, pine woods, abandoned fields and brushy or grassy areas, but one may be found anywhere.

In its natural habitat, the diamondback is difficult to spot since its color pattern blends into the background. When disturbed, the rattler assumes a defensive posture with its body coiled upon itself and the head and neck raised in an S-position. Its tail is held upright and the rattles may sound its signature warning rattle. When in this stance, the rattler can deliver lightning-fast strikes so rapidly the human eye can scarcely detect them.

When its mouth is closed, a rattlesnake's long fangs lie folded back against the roof of its mouth. When the mouth is opened wide during a strike, the fangs erect and pressure exerted on the venom sacs pushes venom through the fangs. The rattler does not have to be coiled to strike – it can strike from any position and in any direction, and at a distance of up to 2/3 the length of its body. When encountered, it generally sounds a warning rattle, but not

The eastern diamondback rattlesnake has yellow-bordered, diamond-shaped markings on its back.

Two families of venomous snakes occur in Florida: the *Viperidae* (vipers and pit vipers) and the *Elapidae* (cobra family).

Pit vipers are identified by facial pits located between the eye and nostril on either side of the head. The pits are heat-sensitive organs that enable the snake to “see” and strike accurately at prey, even in total darkness.

Elliptical eye pupils and a broad V-shaped head are other identifying features of this group. Five pit vipers are found in Florida: eastern diamondback rattlesnake, timber rattlesnake, dusky pigmy rattlesnake, cottonmouth and southern copperhead.

Pit vipers have long, hollow, erectile fangs that are folded back against the roof of the mouth except when the

snake is striking. The venom of most pit vipers contains hemotoxic proteins that attack blood and tissue.

The reclusive eastern coral snake is the only species of the cobra family found in Florida. Its venom is primarily neurotoxic, attacking the nervous system and killing its prey through paralysis of the heart and lung muscles.

## Eastern diamondback rattlesnake

The eastern diamondback is the largest venomous snake in North America. It also is one of the world's most dangerous snakes because of its large body size, quantity of venom and tremendous striking speed.

Diamondbacks have a distinctive pattern of yellow-bordered, diamond-

always. Many people tell of stepping near or even on a diamondback without it rattling or striking. If left alone, the rattlesnake almost always avoids or flees a human encounter.

Like other snakes, the diamondback may shed its skin three to five times each year, depending on its rate of growth, which depends on food availability. A newborn rattler doesn't rattle; its rattle starts as a silent "button." Each time it sheds, a new segment is added to the base of the rattle, enhancing the rattling sound. Rattle sections may break off as the snake travels about, and it is unusual to find a perfect set (including the terminal button) on an older snake. Since it sheds and adds rattles at an unpredictable rate, counting rattles is not a reliable way to determine a rattlesnake's age. Although they may grow up to 8 feet, it is rare to find a rattler longer than 5 feet.

Rattlesnakes feed on warm-blooded animals such as rabbits, squirrels, rats, mice, shrews and birds. They help farmers by preying on crop-destroying rodents.

Like Florida's other pit vipers, rattlesnakes are born alive, and newborn rattlers are fully equipped with fangs and venom.

### Timber rattlesnake

The southern form of the timber rattlesnake, found in the coastal plains, is sometimes called a canebrake rattlesnake. They are often lighter in color than those found in the North or West and may have a pinkish hue.



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The timber rattlesnake is found across the eastern United States as far north as New England. In Florida, it is found mainly in the northern peninsula as far south as Alachua County. The southern form of the timber rattlesnake is recognized by its grayish-brown or pinkish-buff color. It has dark chevron-shaped bands across its body, an orange or rusty-red stripe down the middle of its back, and a brown or black tail terminating in a rattle. Juveniles have the same coloration as adults.

Like other rattlesnakes, the head of the timber rattler is much wider than the neck. Florida specimens seldom measure more than 5 feet in length, and they tend to be more slender in build than the average diamondback.

Usually found in flatwoods, river

Most small-sized dusky pigmy rattlesnakes have a broken rusty-colored stripe down the back (above), but some individuals (below) lack this stripe. The "bump" in its body (bottom right) is evidence this little specimen has recently eaten.



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bottoms or hammocks, the timber rattlesnake also lives in abandoned fields and around farms. During hot weather, it may seek out low or swampy ground.

### Dusky pigmy rattlesnake

The pigmy rattlesnake, often called a ground rattler, is found throughout mainland Florida and on many of the coastal islands. Its rattle is small and slender and produces a barely-audible buzzing sound, similar to an insect, which can only be heard for a distance of a few feet. Stout-bodied for such a small snake, it is gray and marked prominently with rounded dusky spots. Starting at the back of the head, a broken reddish stripe typically alternates with black spots along the midline of the back.

The tip of a young pigmy's tail is yellowish-green, but otherwise they resemble an adult.

The timber rattlesnake has a rusty-colored stripe down its back and a dark tail ending in a rattle.



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Southern copperheads can live up to 18 years. Newborns have bright sulfur-yellow tails.

Pigmy rattlers feed on small frogs, lizards, mice and other snakes. They can be common in pine flatwoods dominated by palmetto or wire grass. They prefer grassy margins of wetlands and may be encountered in almost any locality where there are lakes, ponds or marshes.

The pigmy has a feisty disposition and is quick to strike, resulting in a painful bite with swelling. No human fatalities have been reported in Florida.

### Southern copperhead

Panhandle Florida, specifically the counties bordering the Apalachicola River and areas along the Alabama border, is the southern extent of the range of the copperhead. It is a handsome snake, pinkish-tan in color with reddish-brown crossbands on its body. These bands are wide along the sides and narrow along the back to form something of an hourglass shape. The copper-colored head is wider than the neck. Its average length is 30 inches.

Many snakes reported as copperheads are actually young cottonmouths, which are similar in appearance and closely related. The copperhead's restricted range in Florida has resulted in very few bites and no deaths.

### Cottonmouth

The cottonmouth, a pit viper without rattles, occasionally exceeds 5 feet in length, but most Florida specimens are less than 3 feet long. Cottonmouths are common in every county

and on many coastal islands.

The color pattern of the adult cottonmouth varies from olive-brown to black, with or without black crossbands on the body. It is a stout-bodied snake with an abruptly tapering tail and a broad flat head much wider than the neck. Its most distinctive mark is a dark brown or black band extending from the eye to the rear of the jaw. It has a drooping mouth-line, and the protective shields overhanging its eyes give it a "sinister" appearance, as compared to harmless water snakes.

When disturbed, the cottonmouth will usually draw itself into its defensive posture of a loose coil. Its head is cocked back and its mouth is

opened wide to display the whitish lining of the mouth, hence the name, cottonmouth.

The cottonmouth does not have to be coiled to strike; it can deliver a bite from almost any position, in or out of the water. The cottonmouth often is portrayed as aggressive, partly due to its reluctance to flee, but most individuals are more likely to give an open-mouth display than to bite.

A water-loving snake, the cottonmouth prefers wooded wetlands including swamps, the forested margins of lakes and marshes and the banks of streams that flow through woods. It hunts at night for its prey of fish, frogs, lizards, other snakes and small mammals. During the day, the cottonmouth spends time resting near water, in grassy areas or under piles of debris.

Cottonmouths give birth to between six and 12 young, born fully-equipped with fangs and venom. Young cottonmouths are boldly marked with reddish-brown crossbands and bright yellow tails, and often are mistaken for copperheads. Juvenile cottonmouths, copperheads and pigmy rattlers hold their brightly colored tails aloft and slowly wriggle them as worm-like lures for frogs and lizards.

The venomous bite of the cottonmouth results in severe pain and swelling, but with proper medical attention, is rarely fatal.

The defensive posture of a cottonmouth is a loose coil with its head back and mouth wide open.



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The coral snake has the most potent venom of any North American snake but is unlikely to bite unless threatened.

### Coral snake

The coral snake's venom is the most potent of any North American snake. This colorful species is related to the cobra, krait and mamba. It has short fangs fixed in the front of its mouth. The coral snake generally grabs and then chews its prey in order to inject venom, but contrary to popular misconception, it can strike like a pit viper.

The coral is elusive and seldom seen. When encountered, it tends to be calm and unlikely to bite unless touched.

The coral snake is slender-bodied with the narrow head and round eye pupil characteristic of nonvenomous species. The largest coral snake on record measured 47½ inches, but most specimens are less than 30 inches in length.

Sometimes people confuse the coral snake with the harmless scarlet

kingsnake or scarlet snake, also brightly colored with red, black and yellow bands. However, the banding patterns differ: the red rings of the coral snake are bordered by yellow, whereas the red bands of the scarlet kingsnake and scarlet snake are bordered by black. The coral snake has a rounded, black snout, whereas its two mimics have red, pointed snouts.

Although common in localized areas throughout Florida, the coral snake is rarely seen. It may be found near rotting wood piles, decaying mounds of vegetation, heavy fallen-leaf cover and old brush piles.

The coral snake hunts its prey by nosing through decaying vegetation and humus to catch and feed on other snakes and lizards. It lays eggs, usually six or fewer, that hatch in 60 to 90 days. Hatchlings measure from 7 to 9 inches and are patterned and colored like adults.

Young cottonmouths have reddish-brown crossbands and bright yellow tails, and may be mistaken for copperheads.



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### Preventing and treating snakebites

Snakes are not aggressive towards humans and will not strike unless they feel threatened. While a few snakebites are nearly impossible to avoid, such as when a person accidentally steps on a snake, most could be prevented if people simply kept their distance.

These precautions can lower the risk of being bitten:

- If you come across a snake, walk around it. Leave about 6 feet of space between it and yourself.
- Do not try to get a close look at it or attempt to kill it. Remember, a snake can strike up to 2/3 its body length, and dead snakes still carry venom.
- Stay on paths as much as possible and avoid tall grass and thick brush unless you are wearing thick leather boots.
- Don't reach or walk into any area that you cannot see into.

A striking snake does not always release venom, and some snakes may release too small an amount to pose a serious hazard. However, anyone bitten by a snake should seek medical attention since a bite, even from a nonvenomous species, could cause an infection or possible allergic reaction.

In the United States, between 7,000 and 8,000 people are bitten by venomous snakes each year and approximately five die from the bite. Both pit viper and coral snake bites can be effectively treated with antivenin, but the time between the bite and medical care can be critical.

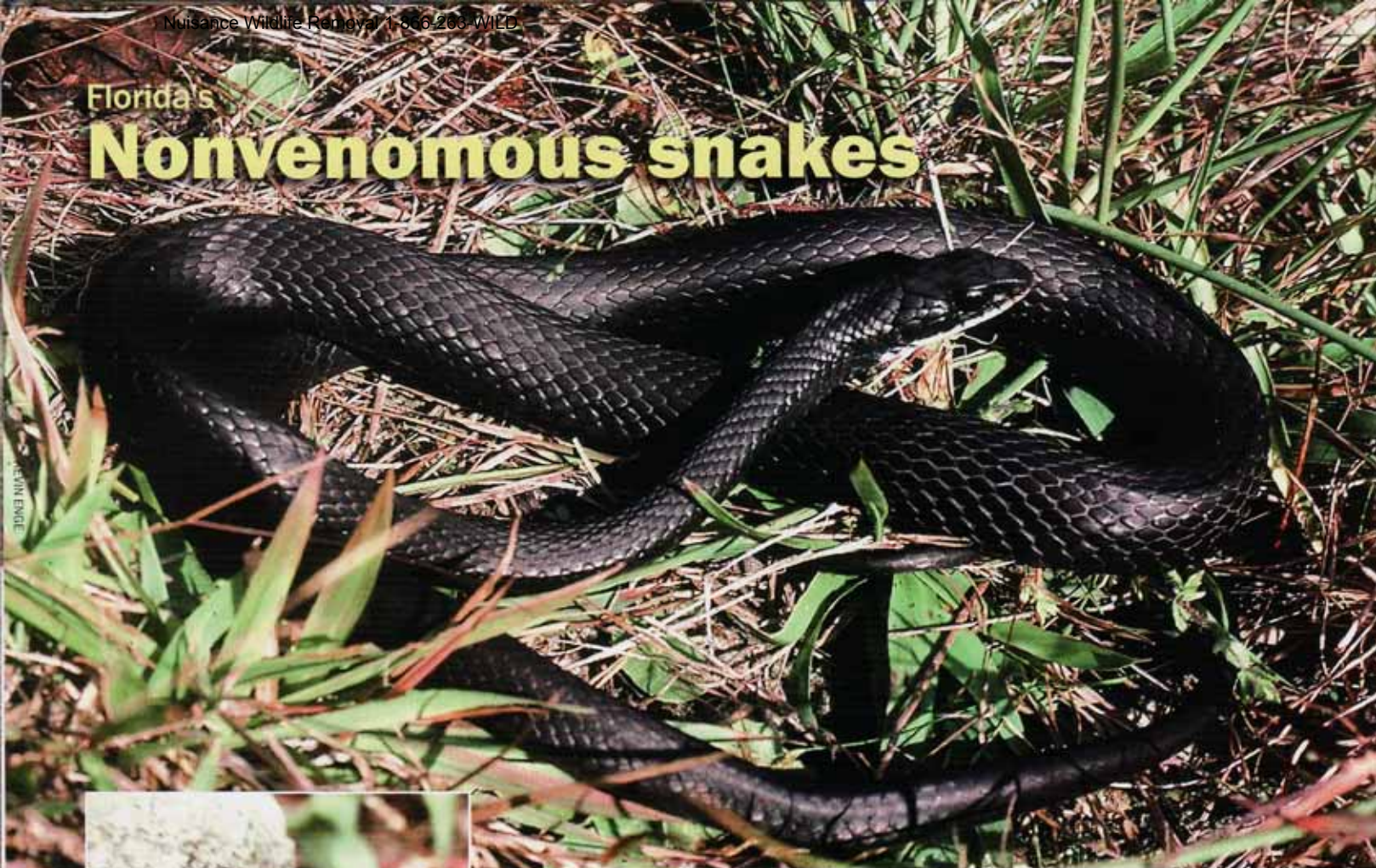
If you are bitten, use these basic first-aid techniques:

- Wash the area with soap and water.
- Immobilize the bitten area and keep it lower than the heart.
- Seek immediate medical help.
- If medical care is more than 30 minutes away, wrap a bandage 2-4 inches above the bite, loose enough to slip a finger under it. This may slow the spread of the venom.

Do not treat a snakebite by:

- Placing ice or other coolant on the bite.
- Tying a tourniquet above the bite. This cuts off the blood supply and could lead to the loss of the affected limb.
- Applying electric shock.
- Making a cut into the wound, which may cause additional injuries.

# Florida's Nonvenomous snakes



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Young black racers (left) look very different from adults (above).

The remaining species of native Florida snakes are nonvenomous but vary widely in appearance, habitats and food preferences.

## Racer and coachwhip

One of Florida's most familiar snakes is the southern black racer, often called a "blacksnake." Aptly named for its coloration and speed, the black racer is common in a wide variety of habitats.

The adult racer is a slender, satiny snake. It is solid black or slate-gray with a white or gray chin or throat. Its eyes are large in

relationship to its head and have rich, chestnut-brown irises. Most are 36-60 inches long, but they can reach 70 inches. The racer is one of the few species whose young look very different than adults. Many people fail to identify baby black racers, which have light-colored bodies with darker blotches along their back and sides.

Adult black racers may be mistaken for the threatened eastern indigo snake. Indigos are much heavier, often have a rusty or red chin or throat, and are much more localized in distribution.

Black racers are easily startled and fast-moving. If discovered, they

almost always try to escape as quickly as possible but will bite if cornered. They also vibrate their tails when threatened and are sometimes mistaken for rattlesnakes.

The black racer actively hunts during the day, one reason they are frequently seen. They feed on a wide variety of animals including other snakes, lizards, frogs, birds, rodents and insects. While hunting in open areas, the racer raises its head high above the ground to survey its surroundings.

Many of these characteristics are shared with the racer's relative, the eastern coachwhip. The coachwhip

The eastern coachwhip got its name from the look of its tail, which resembles a braided whip.



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The Florida kingsnake (above) is found mostly in Central and South Florida, while the eastern kingsnake (below, left) lives in North Florida. The Apalachicola kingsnake (below, right) was named for the area in which it is found.



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can grow to more than 8 feet long and frequents dry, open habitats, including pine flatwoods, sandhill and scrub. It is an active hunter and can be quick to bite in self-defense.

The head and front quarter of an adult's body typically are black to dark-brown, fading to light-tan on the rest of the body and tail. The young are light-tan with irregular brownish bands along the back and sides.

### Kingsnakes

Members of the large and powerful kingsnake family are found throughout Florida. They occupy a variety of habitats, usually near water. Kingsnakes can grow up to 82 inches but commonly are between 36 and 48 inches in length.

Three subspecies of kingsnakes live in Florida. Most kingsnakes in North Florida are eastern kingsnakes and are shiny black with narrow crossbands of white or light yellow. The Florida kingsnake is found mostly in Central and South Florida. It has many indistinct crossbands on a yellow and black salt-and-pepper background. The Apalachicola

kingsnake is sometimes banded but has profuse yellow spotting. Some kingsnake populations are speckled or blotched, but all varieties have the distinctive kingsnake chin marked by black and yellow.

The kingsnake is an egg-laying constrictor that feeds primarily on rodents, birds and reptiles and is mostly active during the day. Its reputation of being the "king of snakes" probably stems from its

fondness for eating other snakes, including rattlesnakes and other pit vipers whose venom does not harm it.

### Rat snakes

Only two species of rat snake are native to Florida, but they are so variable in color and pattern it may seem as if there are many more. The corn snake, often called a red rat snake, is the only large, red-orange snake likely to be encountered in developed areas of Florida. It is commonly mistaken for a copperhead because of its color.

The corn snake varies in color but is usually some shade of yellowish-tan to orange with a row of large, dark-edged, red or rusty blotches running down the back. Its black and white belly resembles a piano keyboard.

The other rat snake species consists of three subspecies. Young rat snakes are gray with darker gray irregular blotches on the back. In the Panhandle, adults usually retain this color pattern and are known as gray rat or oak snakes. Throughout most of Peninsular Florida, adults tend to be yellow or orange with four narrow dark stripes running the length of the body. These are commonly called yellow rat or chicken snakes. The orange snakes with faded stripes found in extreme southern Florida are called Everglades rat snakes.

The corn snake can grow to a length of 72 inches but averages 30-48 inches. Gray, yellow and Everglades rat snakes can reach a length of 84 inches but commonly are 42-72 inches. Rat snakes are found through-

The corn snake is the only large, red-orange snake likely to be found in urbanized areas of Florida.



KENNETH L. KRYSKO



ROBERT T. ZAPPA/LOHNT

Rat snakes are outstanding climbers as both a gray rat snake (above) and yellow rat snake (below) prove.



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out Florida in almost every habitat.

They tend to be elusive and spend most of their time in trees, under brush or mulch piles or in old buildings. Rat snakes are the best climbers of Florida's snakes because of powerful constricting muscles and specially edged belly scales that can press into tiny fissures and enable the snakes to climb vertically.

Young rat snakes feed mostly on lizards and frogs, but adults graduate to rodents and birds. They grab prey with their mouths, coil around them and squeeze the life out of their meal. They then swallow their prey whole. Rat snakes can be useful in controlling rat and mouse populations in and around farms.

In late spring, females lay up to 30 eggs that hatch in mid- to late summer. Rat snakes will defend themselves aggressively when cornered. When threatened, they also may vibrate their tails rapidly.

### Garter and ribbon snakes

In Florida, any native snake species that is striped is nonvenomous. (Stripes run the length of the body; crossbands run from side to side.) The most familiar are garter and ribbon snakes. These closely-related species are common in a variety of habitats, mostly near water or wetlands.

Garter snakes vary widely in color. They can be brown, black or greenish on a checkerboard background of small black spots. Most individuals have three obvious stripes on the back and sides along the length of the body. These stripes may be green, blue, yellow or tan. Garter snakes are usually slender and their maximum length is about 48 inches but most are 18-26 inches.

Large garter snakes will sometimes eat small rodents, but their primary diet consists of worms, small fish, frogs and toads. They often are aggressive when cornered and will expel a foul-smelling musk if handled.

Ribbon snakes are colored similarly to garter snakes but usually lack the checkerboard background pattern, and the center stripe may be faint or absent. As the name implies, ribbon snakes are exceedingly slender and do not grow longer than 40 inches.

Ribbon snakes feed mostly on small fish, frogs and lizards. They are quick-moving and easily startled, rapidly fleeing if given the opportunity. Ribbon snakes rarely bite but will release a foul-smelling musk as a defense mechanism. Garter and ribbon snakes give birth to live young.

Eastern garter snakes (below) and bluestripe garter snakes (above) emit a foul-smelling musk if handled.



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### Water snakes and "water moccasins"

Many people call any snake they see in or near water a "water moccasin" and presume it is venomous. However, most of the snakes seen along Florida rivers, lakes and waterways are harmless water snakes; only the cottonmouth is venomous. Some water snakes grow very dark and thick-bodied, and attain lengths of more than 3 feet. Water snakes are distinguished from cottonmouths partly by their behavior when frightened. The cottonmouth usually coils and stands its ground, and may show its white-lined mouth, while water snakes are quick to escape into the water.

While cottonmouths swim with their entire body on top of the water, often with the head raised, most water snakes swim entirely under the water or with only their head showing at the surface. A good look at the head should help you distinguish a water snake from a cottonmouth. Water snakes have a more rounded head with a round pupil and lack the cottonmouth's flat, triangular head, its horizontal dark band on



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Many people mistake harmless water snakes such as the Florida green water snake (above) and banded water snake (below) for venomous cottonmouths.



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the face and the eyebrow-like scales protruding above the eyes that give it a "sinister" aspect.

The four largest and most commonly encountered water snakes include the plainbelly, banded, brown and Florida green water snakes. The plainbelly, represented in Florida by the redbelly and yellowbelly subspecies, frequents the banks of large rivers in the Panhandle and northern peninsula (Suwannee River drainage). The other three species prefer rivers, lakes, ponds and other waterways throughout the state. The banded water snake is the most commonly encountered as it frequents man-made backyard ponds, retention ponds and drainage ditches.

All are proficient hunters of fish, frogs and other aquatic animals and are well-equipped with long teeth for holding slippery prey. They can be aggressive when frightened and readily bite when cornered. As with

any animal bite, the wound should be thoroughly washed and disinfected to avoid infection.

Water snakes give birth to live young. The Florida green water snake may have more than 100 babies at a time.

### Hognose snakes

The hognose snake is one of Florida's least offensive but most maligned nonvenomous snakes due to its appearance and exaggerated defensive behavior. Hognose snakes are found in upland habitats and prefer dry, sandy woods and fields. The eastern hognose is found throughout mainland Florida while the southern hognose primarily inhabits the northern half of the state.

Both hognose snakes are rather stout-bodied and have alternating brown and tan or yellow blotches. Some eastern hognose snakes have solid black backs with no sign of a pattern. Young hatch in summer

or fall and are gray with black markings. The eastern hognose can reach up to 45 inches but commonly reaches about 20-30 inches in length. The southern does not exceed 24 inches. The peculiar upturned snout, most dramatic in the southern hognose, is designed for digging up toads, its major prey.

Many types of nonvenomous snakes are killed by humans each year out of fear or ignorance, but the hognose snake is more likely to fall victim because of its exaggerated defensive behavior. When frightened, it will hiss and puff up while jerking and thrashing. It will raise its head, flattening out its neck into a cobra-like hood. It will often strike but not open its mouth. If this doesn't frighten away the attacker, the hognose will thrash about more, spew foul-smelling musk, roll over and play dead. The open mouth with its tongue lolling out is usually enough to convince most predators that the hognose is already dead. This behavior backfires when humans become frightened at the display and mistake the hognose for a more dangerous snake.



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Eastern hognose snakes are stout-bodied, and some adults have brown and tan or yellow blotches (above), while juveniles (below) are gray with black markings.



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A southern hognose snake "plays dead" as a defense mechanism.

### Ringnecks and other little snakes

Most of the commonly recognized snakes in Florida are large, but small snake species are far more abundant than large ones. Most of the small snakes grow 12-14 inches in length. Common in most backyards and gardens, these diminutive species are easily overlooked because of their size and elusive behavior.

A good representative is the southern ringneck snake. It is a distinctive little snake with a shiny black or dark gray back and a startling bright orange or yellow belly sporting a row of half moons down the center. Its neck area has a bright orange or yellow ring, hence its name.

Ringneck snakes spend most of their time in leaf litter, where they feed on small lizards, earthworms, slugs and salamanders. They are fairly social and are often found in groups of two or three.

They lay four to seven eggs during mid-summer that hatch 40-50 days later into tiny snakelings only 4 inches long.

Florida's diversity of other small snakes includes the Florida brown and redbelly snakes, earth snakes, queen and crayfish snakes, pine woods snakes and crowned snakes.

### Listed species

Nine Florida snake species are listed by the U.S. Fish and Wildlife Service (FWS) and/or the Florida Fish and Wildlife Conservation

Commission (FWC) as threatened or as a species of special concern.

The eastern indigo snake and the Atlantic salt marsh snake are listed by the FWC and the FWS as threatened.

The Key ringneck snake, short-tailed snake, rim rock crowned snake and the lower Florida Keys populations of the brown snake and ribbon snake are listed by the FWC



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Ringneck snakes have bright orange or yellow bellies with a row of half moons down the center and a ring around their necks. The southern ringneck snake (above, left) is fairly common, while the Key ringneck snake (above, right) is listed as threatened. The striped crayfish snake (below) has adapted well to nonnative water hyacinth beds where it finds crayfish, its favorite prey.



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as threatened.

The Florida pine snake and the lower Florida Keys population of the red rat snake are listed by the FWC as species of special concern.

The threatened eastern indigo snake is perhaps the most well-known of the listed species. It is the largest nonvenomous snake in the United States. Adults can reach 6-8.5 feet in length. It is thick-bodied with smooth, shiny blue-black scales and often a reddish chin and throat. Young indigos are lighter in color and have a faint banded pattern.

Historically, the eastern indigo snake was found from southern Georgia to the Florida Keys and west to Alabama, but today, it is mostly restricted to Florida and southern Georgia, where it is often found in association with gopher tortoise burrows in well-drained scrub and sandhill habitats. The indigo readily moves through a variety of habitats, especially those that border marshes and swamps, in search of prey such as mammals, birds, young turtles, frogs and other snakes, including rattlesnakes and other pit vipers.



KEVIN ENGE

The Eastern indigo snake is the largest nonvenomous snake in the United States. It is thick-bodied with smooth, shiny blue-black scales. Many, but not all, individuals have a reddish chin and throat.

### Nonnative species

Warm weather, many types of habitats and easily accessible water make Florida an inviting place to live – including nonnative wildlife species. Unfortunately, many of the species taking up residency in the state can have a negative impact on native species, as well as on humans. For example, populations of nonnative Burmese pythons and boa constrictors have become established in southern Florida after being released or escaping from pet owners or animal dealers.

A Burmese python can reach 20 feet in length, (the record is 26 feet), weigh more than 200 pounds and is light-colored with dark brown blotches bordered in black down its back. Its native habitat is from India to lower China, the Malay Peninsula and on some islands of the East Indies, where it typically lives near water. It is semiaquatic, swims well and is a good climber. It kills by constriction, asphyxiating its prey before swallowing it whole. Females lay as many as 100 eggs during late spring, remaining with the nest until the eggs hatch in summer.

Due to their large size, pythons pose a risk to many native animals, including threatened and endangered species. They prey mostly upon mammals and birds but may also eat reptiles, amphibians and even fish. They may provide food for American alligators – and alligators may provide dinner for pythons. Pythons have been documented preying upon Key Largo woodrats, one of the most

endangered species in South Florida – an estimated 200 individuals remain in the wild within one small geographic area. Burmese pythons are well established in and adjacent to Everglades National Park in Miami-Dade, Monroe and possibly Collier counties.

Another large, powerful constrictor making South Florida its home is the boa constrictor, which has been reproducing in the 444-acre Deering Estate in Miami since the 1970s. It feeds on lizards, birds and mammals both on the ground and in trees.

Common boas are native to Central and South America, where they occasionally reach a length of 13 feet but are more typically about 8 feet long. The back is usually yellowish, grayish or light brown with dark brown saddles, and the tail saddles are often reddish-colored. They typically are active at night or during

twilight hours, and they climb well. They give birth to 15-40 live young.

The smallest nonnative snake is the Brahminy blind snake. It is the most widespread terrestrial snake species in the world due to its close association with humans and parthenogenetic mode of reproduction (a form of reproduction found in females where development of embryos occurs without fertilization by males.) It might be native to Asia but spread through shipments of potted plants.

This small, very slender snake resembles a wiry worm and burrows in loose moist soil, primarily for termites and ant pupae. It is less than 6 inches long, has a blunt rounded tail that resembles the head and has vestigial eyes that appear as black dots beneath translucent scales. The back is dark gray, brown or black.

While its range continues to expand, the Brahminy blind snake has caused no known harm to Florida's native species.



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Nonnative snakes in Florida include the Brahminy blind snake (above), a small burrowing snake whose head resembles its tail and the Burmese python (below), which can reach 20 feet in length and preys on native animals, including threatened and endangered species.



KEVIN ENGE

# Checklist of

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Central Florida crowned snake

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Brown water snake

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Short-tailed snake

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Gulf crayfish snake

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- **Black pine snake** – see Pine snake
- **Black snake** – see Racer
- **Black swamp snake**, *Seminatrix pygaea*
  - South Florida swamp snake, *Seminatrix pygaea cyclas*
  - North Florida swamp snake, *Seminatrix pygaea pygaea*
- **Blind snake** – see Brahminy blind snake
- **Boa constrictor**, *Boa constrictor*, nonnative
- **Brahminy blind snake**, *Ramphotyphlops braminus*, nonnative
- **Brown snake**, *Storeria dekayi*
  - Marsh brown snake, *Storeria dekayi limnetes*
  - Florida brown snake, *Storeria dekayi victa*
  - Midland brown snake, *Storeria dekayi wrightorum*
- **Brown water snake**, *Nerodia taxispilota*
- **Burmese python**, *Python molurus bivittatus*, nonnative
- **Canebrake rattlesnake** – see Timber rattlesnake
- **Coachwhip** – see Eastern coachwhip
- **Common garter snake**, *Thamnophis sirtalis*
  - Bluestripe garter snake, *Thamnophis sirtalis similis*
  - Eastern garter snake, *Thamnophis sirtalis sirtalis*
- **Copperhead** – see Southern copperhead
- **Coral snake** – see Eastern coral snake
- **Corn snake**, *Elaphe guttata*
- **Cottonmouth**, *Agkistrodon piscivorus*
  - Florida cottonmouth, *Agkistrodon piscivorus conanti*
  - Eastern cottonmouth, *Agkistrodon piscivorus piscivorus*
- **Crayfish snake** – see Glossy crayfish snake, Striped crayfish snake
- **Crowned snake** – see Florida crowned snake, Rim rock crowned snake, Southeastern crowned snake
- **Diamondback rattlesnake** – see Eastern diamondback rattlesnake
- **Dusky pigmy rattlesnake**, *Sistrurus miliarius barbouri*
- **Earth snake** – see Rough earth snake, Eastern earth snake
- **Eastern coachwhip**, *Masticophis flagellum flagellum*
- **Eastern coral snake**, *Micrurus fulvius*
- **Eastern diamondback rattlesnake**, *Crotalus adamanteus*
- **Eastern earth snake**, *Virginia valeriae valeriae*
- **Eastern indigo snake**, *Drymarchon couperi*
- **Florida crowned snake**, *Tantilla relicta*
  - Central Florida crowned snake, *Tantilla relicta neilli*
  - Coastal dunes crowned snake, *Tantilla relicta pamlica*
  - Peninsular crowned snake, *Tantilla relicta relicta*
- **Florida green water snake**, *Nerodia floridana*
- **Florida pine snake** – see Pine snake
- **Glossy crayfish snake**, *Regina rigida*
  - Glossy crayfish snake, *Regina rigida rigida*
  - Gulf crayfish snake, *Regina rigida sinicola*
- **Green water snake**, *Nerodia cyclopion*
- **Hognose snake**, *Heterodon*
  - Eastern hognose snake, *Heterodon platirhinos*
  - Southern hognose snake, *Heterodon simus*
- **Indigo snake** – see Eastern indigo snake
- **Kingsnake**, *Lampropeltis getula*
  - Florida kingsnake, *Lampropeltis getula floridana*
  - Eastern kingsnake, *Lampropeltis getula getula*
  - Apalachicola kingsnake, *Lampropeltis getula meansi*
- **Midland water snake**, *Nerodia sipedon pleuralis*
- **Eastern mud snake**, *Farancia abacura abacura*
- **Pigmy rattlesnake** – see Dusky pigmy rattlesnake

Left: Rough green snake

Below: Rainbow snake



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# Florida snakes

- **Pine snake**, *Pituophis melanoleucus*
  - Florida pine snake, *Pituophis melanoleucus mugitus*
  - Black pine snake, *Pituophis melanoleucus lodigi*
- **Pine woods snake**, *Rhadinaea flavilata*
- **Plainbelly water snake**, *Nerodia erythrogaster*
  - Redbelly water snake, *Nerodia erythrogaster erythrogaster*
  - Yellowbelly water snake, *Nerodia erythrogaster flavigaster*
- **Prairie kingsnake**, *Lampropeltis calligaster*
  - Mole kingsnake, *Lampropeltis calligaster rhombomaculata*
  - South Florida mole kingsnake, *Lampropeltis calligaster occipitolineata*
- **Queen snake**, *Regina septemvittata*
- **Racer**, *Coluber constrictor*
  - Brownchin racer, *Coluber constrictor helvigularis*
  - Everglades racer, *Coluber constrictor paludicola*
  - Southern black racer, *Coluber constrictor priapus*
- **Rainbow snake**, *Farancia erythrogramma*
  - Rainbow snake, *Farancia erythrogramma erythrogramma*
  - South Florida rainbow snake, *Farancia erythrogramma seminola*
- **Rat snake**, *Elaphe obsoleta*
  - Everglades rat snake, *Elaphe obsoleta rossalleni*
  - Gray rat snake, *Elaphe obsoleta spiloides*
  - Yellow rat snake, *Elaphe obsoleta quadrivittata*
- **Rattlesnake** – see Eastern diamondback rattlesnake, Dusky pigmy rattlesnake, Timber rattlesnake
- **Redbelly snake**, *Storeria occipitomaculata*
  - Florida redbelly snake, *Storeria occipitomaculata obscura*
- **Red rat snake** – see Corn snake
- **Ribbon snake**, *Thamnophis sauritus*
  - Bluestripe ribbon snake, *Thamnophis sauritus nitae*
  - Peninsula ribbon snake, *Thamnophis sauritus sackenii*
  - Eastern ribbon snake, *Thamnophis sauritus sauritus*
- **Rim rock crowned snake**, *Tantilla oolitica*
- **Ringneck snake**, *Diadophis punctatus*
  - Key ringneck snake, *Diadophis punctatus acricus*
  - Southern ringneck snake, *Diadophis punctatus punctatus*
- **Rough earth snake**, *Virginia striatula*
- **Rough green snake**, *Opheodrys aestivus*
- **Salt marsh snake**, *Nerodia clarkii*
  - Gulf salt marsh snake, *Nerodia clarkii clarkii*
  - Mangrove salt marsh snake, *Nerodia clarkii compressicauda*
  - Atlantic salt marsh snake, *Nerodia clarkii taeniata*
- **Scarlet kingsnake**, *Lampropeltis triangulum elapsoides*
- **Scarlet snake**, *Cemophora coccinea*
  - Florida scarlet snake, *Cemophora coccinea coccinea*
  - Northern scarlet snake, *Cemophora coccinea copei*
- **Short-tailed snake**, *Stilosoma extenuatum*
- **Smooth earth snake** – see Eastern earth snake
- **Southeastern crowned snake**, *Tantilla coronata*
- **Southern copperhead**, *Agkistrodon contortrix contortrix*
- **Southern water snake**, *Nerodia fasciata*
  - Banded water snake, *Nerodia fasciata fasciata*
  - Florida water snake, *Nerodia fasciata pictiventris*
- **Striped crayfish snake**, *Regina alleni*
- **Timber rattlesnake**, *Crotalus horridus*
- **Water moccasin** – see Cottonmouth
- **Water snakes** – see Brown water snake, Florida green water snake, Green water snake, Midland water snake, Plainbelly water snake, Salt marsh water snake, Southern water snake.



Gulf salt marsh snake

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Banded water snake

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Peninsula ribbon snake

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Eastern mud snake

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Below: Eastern hognose

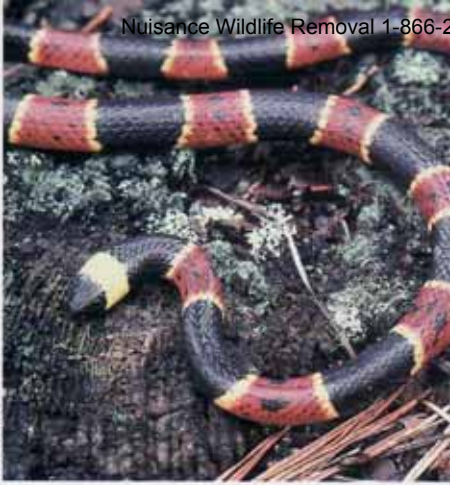
Right: Florida pine snake



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Coral snake



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Scarlet kingsnake



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Northern scarlet snake



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People often confuse the Florida banded watersnake (above) and the cottonmouth (below, eating a catfish.)



KENNETH L. KRYSKO

### What to do when you see a snake

When you see a snake, don't panic. You are much more likely to see a nonvenomous snake than a venomous one. If you are able to do so, just stand back and observe the snake.

Remember, snakes would rather flee than fight. They only use biting as a defense mechanism, and then usually only after giving ample warning. Even a venomous snake would prefer not to waste its precious venom on something it can't eat, like a human.

### Venomous or harmless

Coral snakes have black noses and yellow and red bands next to each other, while harmless mimics have red noses and black-bordered yellow bands. A rhyme some people use to remember the difference between a venomous coral snake and harmless mimics reads: "Red touch yellow, kill a fellow, red touch black, friend of Jack."

Water snakes have a more rounded head with a round pupil, and lack the cottonmouth's flat, triangular head, its horizontal dark band on the face and the eyebrow-like scales protruding above the eyes that give it a "sinister" aspect.



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