

“Black Snakes”: Identification and Ecology¹

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Introduction

The southeastern United States is home to a great diversity of snakes. There are about 50 species of snakes (only seven of which are venomous) that may be found along the Atlantic and Gulf coastal states from Louisiana to North Carolina. These snakes live in a variety of upland and wetland habitats and play important roles in the region's ecology. They are both predators and prey and thus form important links in natural food webs.

Regrettably, populations of many species of snakes are declining not only throughout the southeastern United States but also worldwide. These declines are largely due to habitat loss and degradation, high mortality on roads, and pollution associated with development, agriculture and other human activities. In addition, introduction of invasive species, disease, parasitism, and even climate change may exert negative effects on snake populations. Many species of snakes must also withstand pressures caused by unsustainable collection for the pet trade as well as persecution by humans as a result of misinformation or lack of knowledge regarding snakes.

The purpose of this publication is to provide information on the ecology and identification of black-colored snakes so that the reader is better able to differentiate among them. Seven species are highlighted, culminating with the

southern black racer, the quintessential “black snake” of the Southeast. The intended audience for this publication is broad and includes amateur naturalists, especially snake enthusiasts, as well as anyone interested in identifying dark-colored (i.e., black) snakes in the southeastern United States.

Black-Colored Snakes in the Southeast

Individuals of some snake species look quite similar and may be difficult for those inexperienced with snakes to confidently identify. Among these are several species of southeastern snakes commonly called “black snakes” because of their primarily black coloration. These include the black swampsnake, black ratsnake, ring-necked snake, red-bellied mudsnake, black pinesnake, eastern indigo snake and the southern black racer. The latter two—eastern indigo and black racer—are the species most often referred to as “black snakes”.

In addition to those listed above, individuals of several species of water snakes, the eastern hog-nosed snake and the venomous cottonmouth moccasin may be black colored to a great extent, depending on the age of the individual and the habitat in which it is found. The following is a list of black-colored snakes found in the southeastern United States, the habitats they occur in, and some identifying features. The eastern indigo snake and southern black racer are given special consideration.

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Black Swampsnake (*Seminatrix pygaea*)

The black swampsnake inhabits coastal areas from North Carolina to Florida (Figure 1). This small snake (10–15 inches) has smooth scales, a glossy black back and a bright orange belly (Figure 2). Black swampsnakes are only found in and around wetlands: primarily cypress swamps, marshes, and lake edges, where they feed on tadpoles, worms, small fish, frogs, and salamanders. In the United States, many states have lost as much as 80% of their wetlands, resulting in the loss of great numbers of individuals of species that, like the black swampsnake, are restricted to these wetland habitats.

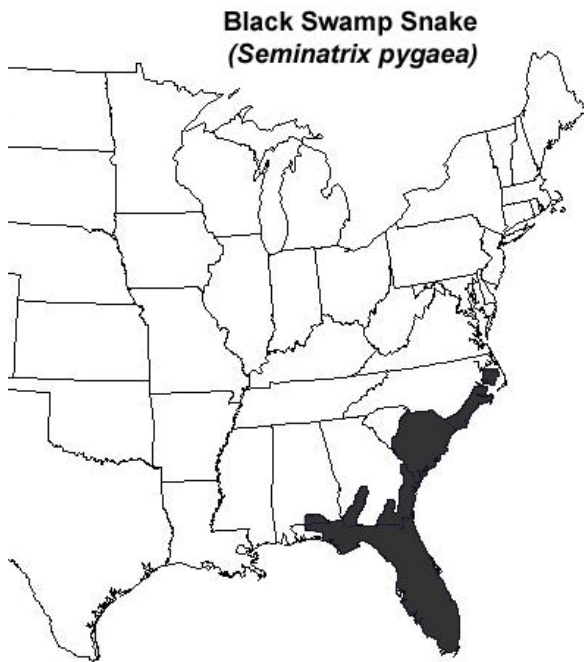


Figure 1. Black swampsnake range (shown in black).
Credits: Monica McGarrity, UF/IFAS



Figure 2. Black swampsnake showing bright orange belly.
Credits: Steve A. Johnson, UF/IFAS

Eastern Ratsnake (*Pantherophis alleghaniensis*)

The eastern ratsnake varies in color and pattern. Most are striped, but one variant is sometimes referred to as “black ratsnake” because of its mainly black coloration. These snakes are common throughout the eastern United States, although the black color variant does not occur in Florida (Figure 3). This snake can be quite large (it may exceed six feet in length) and has slightly keeled scales (raised ridge along the middle of each scale). Its back is almost entirely black (small flecks of whitish color may show through the black), whereas its chin and belly have a lot of white markings (Figure 4). They are excellent climbers and are found in a great variety of habitats, ranging from pine forests to agricultural fields. They feed primarily on rodents, birds, and birds’ eggs.

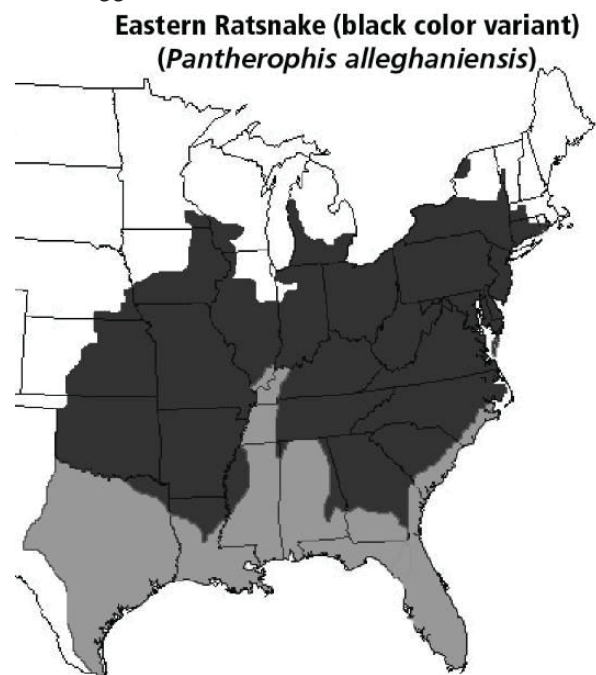


Figure 3. Eastern ratsnake range (black color variant) (*Pantherophis alleghaniensis*).
Credits: Monica McGarrity, UF/IFAS



Figure 4. Black ratsnake showing white chin and belly markings and white flecks on back.
Credits: Steve A. Johnson, UF/IFAS

Southern Ring-Necked Snake (*Diadophis punctatus punctatus*)

Ring-necked snakes are found throughout most of the eastern United States (Figure 5). These diminutive snakes seldom grow longer than 12 inches. Ring-necked snakes have smooth scales and a black or dark gray back, whereas the belly is a bright orange/yellow, often with a row of black spots. As the name implies, there is an obvious ring of orange/yellow around its neck (Figures 6 and 7). When alarmed or threatened, ring-necked snakes coil their tail like a corkscrew. These snakes are fairly secretive and may be found under logs and rocks in moist uplands, where they eat earthworms, slugs, small salamanders, and small snakes. They are common in suburban neighborhoods.

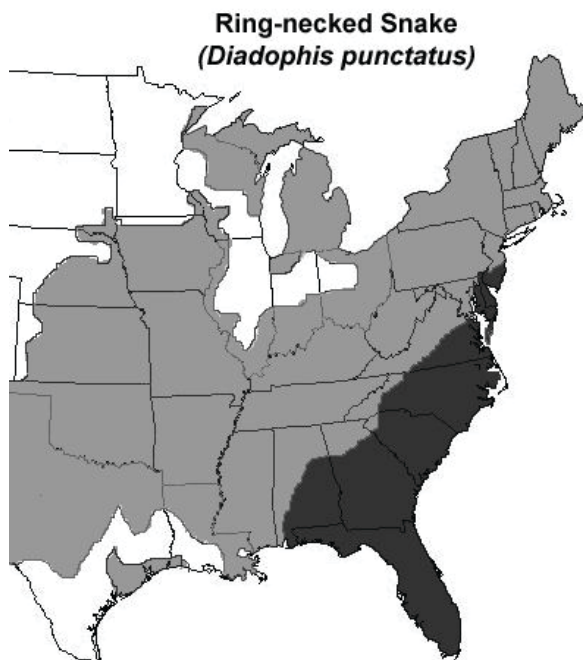


Figure 5. Southern ring-necked snake range (shown in black, other ring-necked subspecies in gray).
Credits: Monica McGarrity, UF/IFAS



Figure 6. Southern ring-necked snake showing typical defensive posture—note the coiled tail.
Credits: Steve A. Johnson, UF/IFAS



Figure 7. Southern ring-necked snake showing yellow belly coloration.
Credits: Kenneth Krysko, FLMNH, 1996

Eastern Mudsnake (*Farancia abacura*)

Mudsnakes are found in coastal areas and river basins in the southeastern United States (Figure 8). They can grow to over six and a half feet long but are very docile snakes despite their large size and pose no threat to people. They are thick bodied with smooth, glossy scales and a pointed tail tip (Figure 9). The back is black, whereas the belly is a checkerboard of black and a reddish pink color that extends up onto the sides of the snake. Rarely the reddish-pink color is lacking and the belly markings are white. Mudsnakes are highly aquatic and may be found in swamps, lakes, and rivers throughout the Southeast, where they feed primarily on large, eel-like aquatic salamanders.

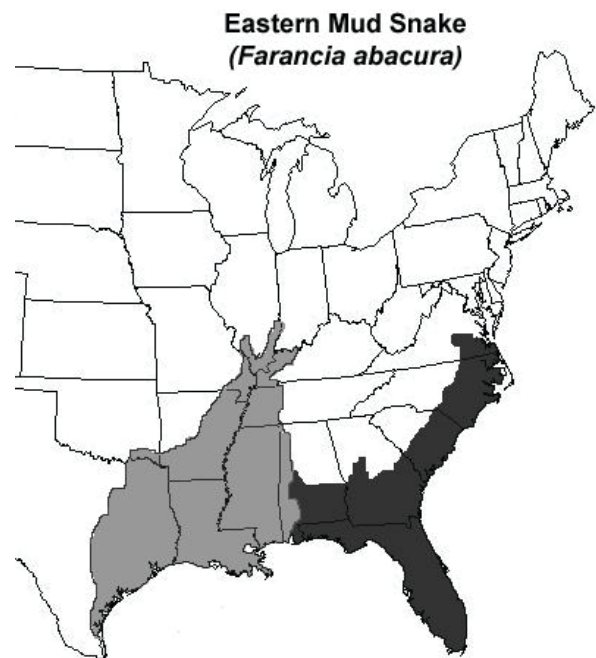


Figure 8. Eastern mudsnake range (shown in black, other mud snake species in gray).
Credits: Monica McGarrity, UF/IFAS



Figure 9. Eastern mudsnake.
Credits: Steve A. Johnson, UF/IFAS

Black Pinesnake (*Pituophis melanoleucus lodingi*)

The black pinesnake is one of a group of closely related snake species (includes other pinesnakes, bull- and gopher-snakes) with a fairly broad geographical range. However, the range of the black pinesnake is relatively limited, and this species is only found in certain parts of the southeastern United States (Figure 10). Black pinesnakes have keeled scales and a nearly uniform black or dark brown color on their backs and bellies with a faint blotched pattern often seen toward the tail (Figure 11). Black pinesnakes, like the other species of pinesnakes, have a distinctive, cone-shaped scale on the tip of their snout. These snakes may grow as long as six feet. When they feel threatened, pinesnakes will coil and hiss loudly. They prefer dry pinelands with sandy soils and are excellent burrowers, spending much of their lives underground in mammal burrows. They feed mainly on mammals but will also eat birds.

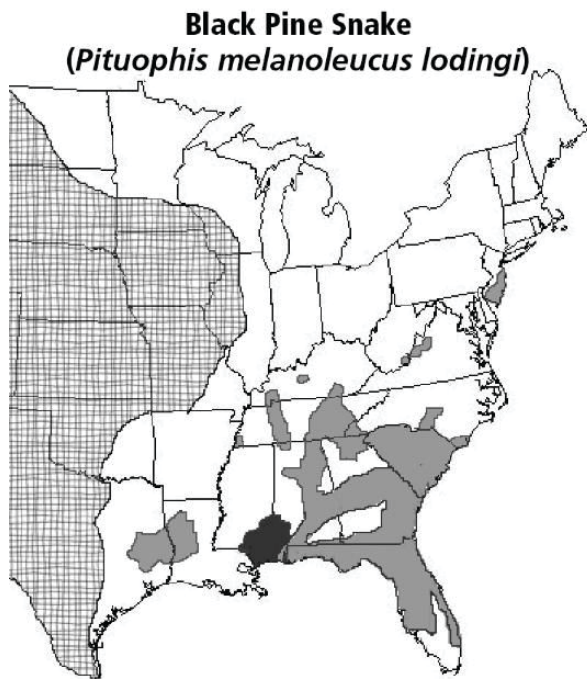


Figure 10. Black pinesnake range (shown in black, other pinesnake species in gray; gopher- and bullsnake in crosshatch).
Credits: Monica McGarrity, UF/IFAS



Figure 11. Black pinesnake.
Credits: Kenneth Krysko, FLMNH, 1996

Eastern Indigo Snake (*Drymarchon couperi*)

Eastern indigo snakes are found from southeastern Georgia, Alabama, and Mississippi south to the Upper Florida Keys (Figure 12). Some scientists believe there may be two, very similar, species of this snake, but we treat it as a single species. These are magnificent, thick-bodied snakes that can grow to over eight feet long, making them the largest native snake in North America (north of Mexico). Their smooth scales are a glossy bluish-black color, including the belly, although the chin and throat may range from light cream to orange or deep maroon (Figure 13). They are usually very docile, but when threatened may hiss loudly and shake their tail, making a rattling sound if the snake is in dry leaves or debris.



Figure 12. Eastern indigo snake range (shown in black).
Credits: Monica McGarrity, UF/IFAS



Figure 13. Eastern indigo snake showing maroon chin coloration.
Credits: Natalie Hyslop, University of Georgia

Eastern indigo snakes inhabit pine forests, hardwood hammocks, scrub, and other uplands. They also rely heavily on a variety of wetland habitats for feeding and temperature regulation needs and are able to swim, even though they are not considered aquatic. In drier upland sites, they inhabit the burrows of the gopher tortoise, which has resulted in the colloquial name of “blue gopher.” Eastern indigos are well known and respected for their ability to eat venomous snakes, such as rattlesnakes, cottonmouths, and copperheads. In addition, they feed on other non-venomous snakes, turtles, rodents, and frogs.

Habitat loss from development and agriculture, habitat degradation due to lack of fire as well as collection for the pet trade and other human activities have led to significant reductions in populations of eastern indigo snakes, which are protected throughout their range by state and federal laws. Eastern indigo snakes have been listed as a threatened species by the Florida Fish and Wildlife Conservation Commission since 1971 and by the US Fish and Wildlife Service under the Endangered Species Act since 1978, and it is illegal to handle, harass, kill, capture, keep, or sell them without a federal permit. However, despite these protections, habitat loss and degradation throughout their range continue to cause the decline of this important snake. You should consider yourself lucky if you see one of these beautiful “black snakes.”

Southern Black Racer (*Coluber constrictor priapus*)

Black racers, also known as North American racers, are a group of closely related subspecies that are similar in appearance and range across the eastern half of the United States (Figure 14). The southern black racer, along with several other subspecies of racers, is the true black snake of

the southeastern United States. These snakes are long and slender; the largest reaching up to six feet (most are less than four feet long). They have smooth scales and range from jet black to dark gray on their backs and bellies, with chins and throats that are lighter in color or white (Figure 15).

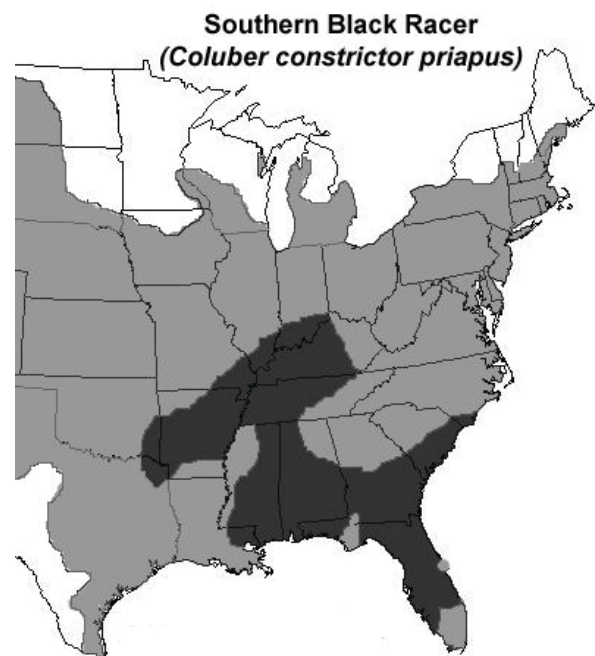


Figure 14. Southern black racer range (shown in dark gray, other black racer subspecies in light gray).

Credits: Monica McGarrity, UF/IFAS



Figure 15. Southern black racer (adult).

Credits: Steve A. Johnson, UF/IFAS

Young black racers, though thin like the adults, have an overall appearance much different than adults. Juvenile black racers have a series of reddish to brown-colored blotches down the middle of their backs on a background color of gray. They also have abundant small, dark specks on their sides and bellies (Figure 16). Because of these mid-dorsal blotches, juveniles are sometimes confused with the venomous pygmy rattlesnake (*Sistrurus miliarius*), which also has blotches down the center of its back. However, pygmy rattlesnakes are much thicker and have blocky heads with a dark band from the eye to the corner of the jaw.



Figure 16. Southern black racer (juvenile)—note the slender body and reddish colored blotches.

Credits: Steve A. Johnson, UF/IFAS

Despite their scientific name (*Coluber constrictor*), black racers do not always constrict their prey but rather use their speed to chase down a prey animal, grab it with their strong jaws, and swallow it alive. Racers are harmless to people and generally attempt to make a speedy escape when approached. However, if they feel threatened and are unable to flee, they may vigorously shake their tail (making a rattling sound on dry leaves), defecate on their captor, or even bite if handled.

Black racers inhabit a great variety of natural habitats ranging from pine forests to the Florida Everglades. They are active during the day and are one of the most commonly encountered snakes in suburban yards and parks. As their name implies, they are swift and agile. They spend most of their lives on the ground, yet are excellent climbers and may be found in shrubs and small trees. Black racers eat a variety of prey items including frogs, lizards, mice, rats, small snakes, and even birds' eggs.

Summary

In spite of great variation in body size, habitat use, diet, and behavior, the lack of bold, readily apparent distinguishing marks can make identification of southeastern “black snakes” a daunting task for those inexperienced with snakes. Nonetheless, an informed observer can readily recognize the bright orange belly of the black swamp snake or the namesake ringed neck of the ring-necked snake, and may quickly learn to distinguish between the smooth, glossy sheen of the eastern indigo or black racer and the keeled, somewhat dull look of the black pine and black rat snakes. These snakes may seem nondescript at first glance, though knowledge of these and other more subtle, yet telltale characteristics will assist in the rewarding task of becoming familiar with the “black snakes” of the southeastern United States.

Fortunately, there are a variety of books and websites that are extremely helpful references for use in determining the identity of an unknown non-venomous or venomous snake. In addition, these references will assist you in learning even more about the ecology of our native snakes and may help to further your understanding of the threats facing these species and the importance of protecting them. Certainly, knowledge is the key to understanding that the only good snake is NOT a dead snake, and that these species play vital roles in the habitats in which they are found—an important lesson that must be learned and passed on before it is too late for already threatened species like the eastern indigo snake.

Snake Identification Resources

Websites

UF Wildlife—Online guide to Florida Snakes <http://ufwildlife.ifas.ufl.edu/snakes/florida.shtml>

Florida Museum of Natural History—Online guide to Florida Snakes <http://www.flmnh.ufl.edu/herpetology/florida-amphibians-reptiles/snakes/>

University of Florida EDIS Documents—Venomous Snakes

- *Dealing with Venomous Snakes in Florida School Yard*—<https://edis.ifas.ufl.edu/uw225>
- *Emergency Snakebite Action Plan*—<https://edis.ifas.ufl.edu/uw226>
- *Preventing Encounters Between Children and Snakes*—<https://edis.ifas.ufl.edu/uw227>
- *Recognizing Florida's Venomous Snakes*—<https://edis.ifas.ufl.edu/uw229>

University of Georgia—Snakes of South Carolina and Georgia <https://srelherp.uga.edu/snakes/index.htm>

Outdoor Alabama—Alabama Department of Conservation and Natural Resources snake page <https://www.outdooralabama.com/reptiles/snakes>

Books and Guides

Gibbons, W. and M. Dorcas. 2005. *Snakes of the Southeast*. University of Georgia Press, 253 pp.

Carmichael, P. and W. Williams. 1991. *Florida's Fabulous Reptiles and Amphibians*. Tampa: World Publications. (120 pp.)

Powell R., R. Conant and J. T. Collins. 2016. *Peterson Field Guide to Reptiles and Amphibians of Eastern and Central North America*. New York: Houghton Mifflin Company, 494 pp.