

How To Distinguish Eastern Indigo Snakes From Other Common Species



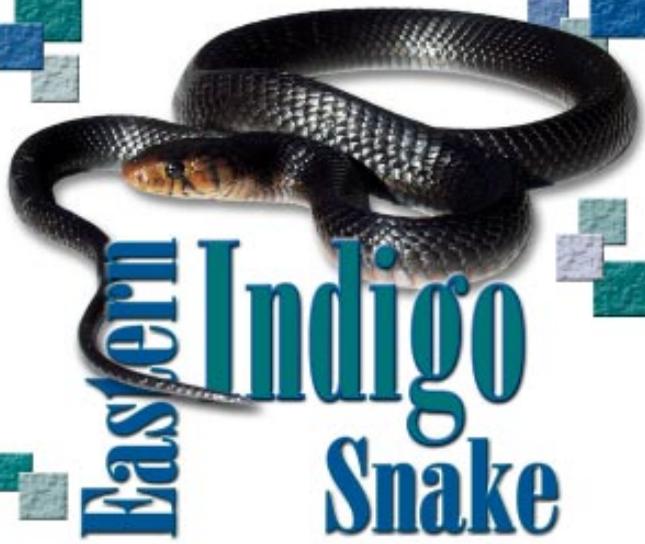
Adult eastern indigo snakes may be confused with few other species, due to the indigo's glossy blue-black color and large size (5–7 ft.).



Racers (*Coluber constrictor*), occur in a wide variety of habitats. Adults are black or dark gray, slender, 3–5 ft. long, with white or brown chins.



The eastern hognose snake (*Heterodon platirhinos*), which also occupies pine-scrub oak habitat, may occur in a melanistic (dark) color phase. However, the eastern hognose is a short (2–3 ft.), thick-bodied snake with an upturned snout and is easily distinguished from the larger, glossy blue-black indigo.



The eastern indigo snake (*Drymarchon couperi*) has the distinction of being the longest snake native to the United States. Eastern indigos typically range from 5 to 7 feet long, but can reach lengths greater than 8 feet. Indigos are robust and glossy black, with smooth conspicuous scales. The lower face and chin may be black, light gray, or red, and the coloration can extend down the body past the throat. Indigo snakes are non-venomous and generally docile; they rarely become aggressive even when threatened. They are long-lived, and captive individuals have survived for 25 years, but life spans in the wild are likely much shorter.

Eastern indigos were once common from west of the Savannah River in Georgia to southeastern Mississippi and throughout Florida, including the Keys. Their current range is restricted to southern Georgia and peninsular Florida, including the upper and lower Florida Keys, with a few isolated populations in the Florida panhandle. Populations may also persist in localized areas of southern Alabama.

Eastern indigo snakes became federally protected as threatened under the Endangered Species Act in 1978, and they are also protected as threatened by Florida and Georgia. It is illegal to harass, harm, capture, keep, or kill an eastern indigo snake without specific state and/or federal permits.

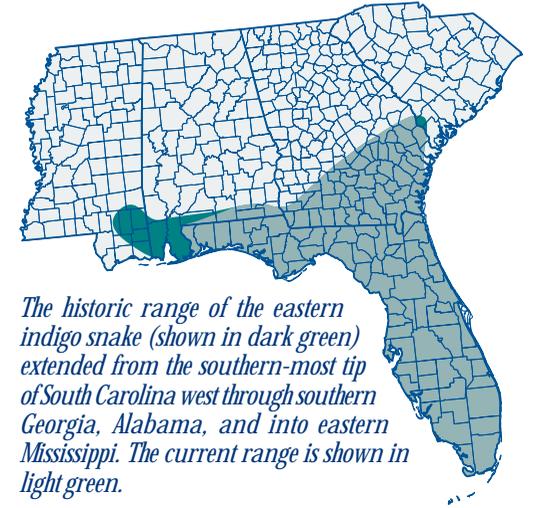
Life History

Eastern indigo snakes use a wide variety of habitats ranging from very wet to very dry. They tend to stay in a specific area known as a home range, but this area is not static and can change over time, probably in response to habitat conditions and prey availability. Because indigo snakes are sizeable predators that actively hunt for their food, they need large home ranges. Males have been shown to use between 50 and 800 acres, whereas females occupy up to 370 acres. During the winter, home range sizes are smaller, particularly in the cooler portions of the indigo snake's geographic range.

Indigo snakes, like all snakes, are reptiles and therefore are “cold blooded.” They are at the mercy of temperature extremes in the environment and must protect themselves from excessive heat and cold. Although indigos are very general in the types of habitats they will use, their home ranges must include suitable den sites. In places where indigos share their habitat with gopher tortoises (*Gopherus polyphemus*), tortoise burrows are



Eastern indigos are large glossy blue-black snakes that can reach lengths of 7–8 feet as adults.



The historic range of the eastern indigo snake (shown in dark green) extended from the southern-most tip of South Carolina west through southern Georgia, Alabama, and into eastern Mississippi. The current range is shown in light green.

often used for shelter. The snake may share the burrow with a tortoise, but most often indigos will occupy an old burrow that a tortoise has deserted. Other den sites include root mounds at the base of trees and shrubs, piles of sticks and/or dirt, and man-made debris piles. Indigos use dens not only as protection from seasonal temperature extremes, but also from daily temperature fluctuations, fire, inclement weather, and predators just before and during shedding, when they are particularly vulnerable.

Eastern indigos actively search for prey during the day and enter dens at night. They consume a wide variety of foods; virtually any small vertebrate that is available will be grabbed and swallowed alive. Fish, frogs and toads, other snakes (including venomous snakes and other indigos), turtles, birds, and small mammals are all documented prey of the indigo snake.

Because adult eastern indigo snakes are so large, they have few natural predators. However, red-tailed hawks, alligators, and larger indigos have



Eastern indigo snakes may use occupied or abandoned gopher tortoise burrows as den sites.

been documented to prey on indigo snakes. Domestic cats and dogs also have been known to kill indigo snakes. Although not confirmed, other large raptors, bears, pigs, bobcats, and coyotes may prey on indigo snakes. Hatchling and juvenile indigos, as well as eggs, could easily be eaten by many animals, and mortality is probably much higher for these life stages than for adults.

Very little is known about eastern indigo snake reproduction in the wild and what information is available comes from captive populations. Mating occurs from winter to early spring and males and females are often found together during these months. Although captive indigos can reproduce every year, this information is only now being collected for wild snakes. Between five and ten large, oval, rough-textured eggs are laid in spring, but the location and substrate for nest sites are unknown. The young are 16-24 inches long at hatching. They may have the same coloration as an

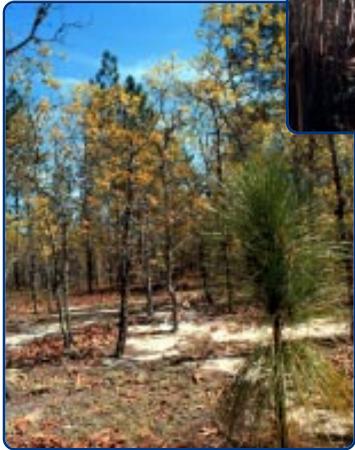
adult, or may be speckled with blue or white flecks that fade within a few months. The number of eggs that typically hatch, what young snakes do, and how well they survive in the wild are just a few of the many questions we cannot yet answer.

Threats & Problems

Although eastern indigo snakes were federally protected in 1978, there is general agreement among professional and amateur herpetologists that their populations have continued to decline. There are many threats that contribute to the loss of individuals and small populations. Before being protected, eastern indigo snakes were commonly kept as pets, effectively removing these individuals from the breeding population. The practice of “gassing” gopher tortoise burrows (pouring gasoline into burrows to drive out the occupants) as part of rattlesnake roundups undoubtedly took a toll on indigos, as well as many other species of wildlife. This practice is now illegal in Florida and Georgia, but the laws are difficult to enforce.



Another source of mortality to indigos and many other species of snakes is intentional killing by humans. Although it is illegal, many indigos are harassed or killed simply because they are snakes and some people are afraid of all snakes. Harming an indigo snake is a federal offense that violates the Endangered Species Act; conviction is punishable by substantial fines and/or incarceration. Education of the general public regarding the indigo’s protected status and the role of snakes as important components of our ecosystem would help stop the unnecessary loss.



Habitats of the eastern indigo snake range from dry pine-scrub oak (bottom) to mangrove swamps (top).

To date, the Endangered Species Act has been ineffective in protecting eastern indigos against the greatest threat: the loss, fragmentation, and degradation of their habitats. The detrimental effects of habitat destruction are obvious, as all species require suitable habitat. However, at present, there are no reliable survey methods to detect the presence of indigo snakes on a site. The difficulty in confirming their presence hinders effective legal protection and mitigation for loss of individuals, populations, and habitat.

Habitat fragmentation is as serious a threat to the eastern indigo snake as is outright habitat destruction. Because indigos move over large areas, they are often forced to cross roads while searching for food and mates. One study documented vehicular mortality as the single greatest cause of mortality for indigo snakes. Habitat fragmentation also increases the chances that an indigo will come into contact with a person, a situation where the snake often loses.

Habitat degradation is an indirect, yet serious, threat to indigo populations. Habitat may degrade over time for a number of reasons, including lack of fire or changes in water levels or water quality. These and other extrinsic factors can influence the abundance of prey, availability of suitable den sites, or access to mates. Setting aside habitat for indigos and other wildlife species is

photo by Stan Moore



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meaningless without a commitment to proper land management.

What Can You Do?

You can help protect and conserve eastern indigo snake populations in a number of ways.

- First, educate yourself and others about indigos and the vital role that all snakes play in the environment. There are many people who would not harm snakes if they realized what important and interesting creatures snakes really are. Irrational fear and prejudice can often be cured by one positive experience.
- Be an informed voter. Support officials at all levels of government who recognize the value of our natural resources. The most important factor in saving the eastern indigo snake from extinction is the conservation and proper management of large tracts of habitat. It will not matter how many individual snakes we save if there is no habitat for healthy, reproducing populations to thrive. Strong laws to protect wildlife and habitats (and enforcement of those laws) are not necessarily incompatible with responsible development and a robust economy. It is possible, and preferable, to have both.

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