



Common Name: EASTERN INDIGO SNAKE

Scientific Name: *Drymarchon couperi* Holbrook

Other Commonly Used Names: blue gopher snake

Previously Used Scientific Names: *Drymarchon corais couperi*

Family: Colubridae

Rarity Ranks: G3/S3

State Legal Status: Threatened

Federal Legal Status: Threatened

Description: The eastern indigo snake reaches a maximum total length of 2.63 m (about 8½ feet), making it the longest snake in North America. The head of this stout snake is only slightly distinct from the neck. Coloration is iridescent blue-black throughout, except on the chin, throat, and cheeks, which are usually reddish or occasionally cream-colored. No pattern is present on the body. The scales are large, shiny, and for the most part smooth, though scales on several middorsal rows of mature males are partially keeled. The anal plate is undivided.

Similar Species: Indigo snakes may be confused with black racers, which differ by having a white cheek patch, dull black coloration, a much more slender body, and a divided anal scale. The range of the black rat snake does not overlap with that of the eastern indigo snake.

Habitat: Though present in a wide variety of habitat types in peninsular Florida, indigo snakes in Georgia are closely associated with longleaf pine habitats, such as sandhills and turkey oak scrub. Stump holes and gopher tortoise burrows provide winter retreats. Within the Altamaha Grit areas of Georgia, fissures within sandstone outcroppings often prove suitable for shelters. Floodplains or the periphery of cypress ponds, either adjacent to or interspersed within the sandy uplands, are used during the warmer months.

Diet: A wide variety of vertebrate prey including birds, small mammals, fishes, frogs, small turtles, lizards and snakes (including venomous snakes). Since indigo snakes are not constrictors, their prey is usually eaten alive.

Life History: Indigo snakes utilize a variety of habitat types during the course of the year. During the warmer months, daylight hours are often spent foraging on the edge of wetlands where frogs and other snakes are typically abundant. Indigos utilize a very large area, up to or exceeding 800 hectares (2000 acres), during this period. However, they become relatively concentrated on upland sand ridges once winter approaches. Breeding occurs from November until April, and females typically lay 5-10 eggs during May or June; these are often placed in the moist sand of tortoise burrows. Females are capable of storing sperm at least four years for future fertilization. Males defend territories, and encounters with other males may result in fierce combat and potential cannibalism.

Survey Recommendations: Pedestrian surveys in sandhills with significant gopher tortoise burrow concentrations are perhaps the best method for locating indigo snakes. Searches are most effective from late fall to early spring when indigo snakes are most likely to be using tortoise burrows for shelter, and ideally when temperatures are above 10°C (50°F). Surveyors should look for snakes just inside the burrows or basking on the surface nearby. Shed skins are often identifiable to species and should be collected and sent to an expert. Burrow cameras are rarely effective at locating indigo snakes. Drift fences equipped with box traps are often successful, but require a significant investment in time, labor, and costs.

Range: Historically, the eastern indigo snake ranged from southeastern Georgia south and west to southeastern Mississippi. Currently, extant populations are known from only Georgia and Florida. Georgia populations are highly fragmented and primarily occur in the southeastern portion of the state. The presence of these snakes on the Sea Islands of Georgia has been reported

in very old, suspect accounts; however, it is very unlikely they occur on any Georgia island today.

Threats: In many areas, indigo snakes may depend on the burrows of gopher tortoises more than any other vertebrate burrow associate; therefore, it can be assumed that the well documented reduction in the distribution and abundance of gopher tortoises has likely impacted the status of the indigo. The natural communities of Georgia's Coastal Plain have been drastically reduced as a result of primarily agricultural and silvicultural activities, thus forcing indigo snakes into smaller, isolated compartments of suitable habitat. As a wide-ranging species now relegated to frequent road-crossing, indigo snakes have become increasingly vulnerable to vehicles and to humans who indiscriminately kill any snake seen. Many populations were depleted by collection for the pet trade previous to their federal listing and protection under the Endangered Species Act. Despite being illegal, the continued practice of introducing gasoline down gopher tortoise burrows ("gassing") to drive out eastern diamondback rattlesnakes results in the likely death of all burrow inhabitants, including the indigo snake.

Georgia Conservation Status: Public lands known to harbor extant populations include Ft. Stewart Military Reservation, Kings Bay Naval Station, Okefenokee National Wildlife Refuge, Crooked River State Park, General Coffee State Park, Little Satilla Wildlife Management Area, Griffin Ridge Wildlife Management Area, Big Hammock Wildlife Management Area and Natural Area, and Horse Creek Wildlife Management Area.

Conservation and Management Recommendations: Significantly large areas inhabited by indigo snakes should be protected from further degradation. This includes avoidance of intensive soil disturbance and continuation or initiation of a periodic prescribed burning program. Any efforts to protect or enhance gopher tortoise populations should benefit the indigo snake as well. Stronger enforcement of the laws prohibiting the gassing of tortoise burrows is encouraged. Education aimed at reducing or eliminating the unwarranted fears and misconceptions of nonvenomous snakes is perhaps the most critical long-term conservation measure that can be undertaken.

Selected References:

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J. Jensen, Dec. 2007: original account

K. Owers, Sept. 2009: updated status and ranks, added picture