

Smooth Greensnake (*Opheodrys vernalis*)

Family Colubridae (Colubrinae)

Subspecies: None currently recognized

Updated 2025



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Tan/Buff Color Phase, © Eric Roscoe

Description/Identification: The Smooth Greensnake is a small species of terrestrial snake ranging in adult size from a total length of about 12.1 to 19.6 inches in length. The scales are smooth, and are arranged in about 15 rows in total at mid-body, and the tail at the anal or ventral scale is very long, slender, and prehensile. The ventral, or anal plate is divided, and the head is only slightly wider than the neck and rest of the body. The eyes are large, in addition, and the pupils are normally round, with golden-yellow, yellowish, or yellow-brown irises. Smooth Greensnakes have 2 rows of subcaudals on the underside of the tail past the ventral opening, numbering 20 to 26 rows. On the inside of the mouth, Smooth Greensnakes have one to two rows of tiny, recurved teeth on the maxillae and lower quadrate bones of their upper and lower jaws which are normally covered by a fleshy membrane. These teeth, however, are too small to easily or effectively puncture human skin.

The dorsum color of Smooth Greensnakes, as their names imply, are most often a bright, unpatterned emerald or metallic green in color, with the labials, chins, throats, and undersides or ventral surfaces ranging from a uniform, unpatterned white to pale yellow in color. Some specimens, particularly in Central, northern, and northeastern Wisconsin can also range in color from a deeper teal or turquoise blue-green, and tan, light brown, or bronze colored phase individuals can also be common. More rarely, specimens can be a yellow or yellowish-orange color phase. The tongues are forked, and usually a red or pinkish color. It is thought that the cause for these tan, buff, or yellow color phases, which are common in northern and central Wisconsin, have to do with the absence of structural blue or yellow pigments which give smooth green snakes their green color.

Hatchling Smooth Greensnakes are a much darker olive to olive-brown in color with pale white undersides. Males and females are similar in appearance, and can be difficult to tell apart, except for

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males being smaller and less heavy-bodied than the females, and having proportionately longer tail lengths than females. The Smooth Greensnake is the only native species of brightly colored “green” snake in Wisconsin, and are thus unlikely to be confused with any other snake species as adults. After death, however, the green coloration of the adults begins to degrade and break down, and they can become a more bluish or bluish-gray color. This sometimes leads to them being mistaken for North American Racers (*Coluber constrictor*); however, North American Racers of equivalent size to an adult Smooth Greensnake still retain their juvenile dorsal blotches. Other species of neonate natricine snakes such as DeKay’s Brownsnakes (*Storeria dekayi*) and Red-bellied Snakes (*Storeria occipitomaculata*) have keeled scales and a prominent lightly colored neck collar.

There are currently no subspecies of the Smooth Greensnake recognized.



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Range and Distribution: Smooth Greensnakes range from across southern Canada, from extreme southeastern Alberta, through Saskatchewan, Manitoba, and Ontario, to Quebec and Nova Scotia, throughout the New England United States, to North Carolina, west through the Midwestern Great Lakes states, and many disjunct populations occurring to the Gulf of Mexico in Texas, in the Great Plains states, and western U.S. in New Mexico, Colorado, and Utah.

In Wisconsin, Smooth Greensnakes can occur throughout most of the state, except in the unglaciated Driftless Region of southwestern and western tier of counties, where they appear to be absent. Populations in eastern and southeastern Wisconsin tend to be more localized and scattered.

Habitat: Smooth Greensnakes are most common in habitats with sandy or loamy soil, but can also occur in more mesic or wet prairie habitats as well. Oak savannahs, old fields, bracken grasslands, grassy openings or clearings in pine barrens or oak barrens, grassy forest edges along northern or southern xeric forests or woodlands, open, grassy woodlands, or along the margins of marshes or prairies with sandy soil may all be possible places to find smooth green snakes. They may be found underneath boards, sheets of tin, rocks, logs, railroad ties, or fallen bark, or they may be encountered actively while on the crawl.

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Ventral/Belly View. © CaliforniaHerps.com.

Feeding and Diet: Smooth Greensnakes are almost entirely insectivorous, eating a number of different soft bodied insects, insect larvae, arachnids, slugs, earthworms or other worms, caterpillars, and other types of soft-bodied invertebrates. Only occasionally will these snakes eat other prey such as small frogs, salamanders, or other amphibians. Smooth green snakes consume their prey simply by grasping their intended prey in their jaws, and usually swallowing it live.

Natural History: Smooth Greensnakes are primarily diurnal snakes, and they are active hunters of small invertebrates using their keen eyesight and sense of smell. These small brightly colored snakes emerge from overwintering by around mid-April or May, and remain active throughout the year until October or November. During warm summer or fall rain, Smooth Greensnakes can become more nocturnal or crepuscular, and can sometimes be found crossing roads or trails at night. These snakes may overwinter individually, or in larger numbers, oftentimes with other snake species from the area including red-bellied and DeKay's Brownsnakes, garter snakes, and juvenile Common/Northern Watersnakes or Eastern Foxsnakes. Spring and fall movements are most likely to or from their overwintering sites, which can include old foundations, rock walls or rock piles, small mammal burrows, or ant mounds. Smooth Greensnakes can also climb well, and may be found basking or foraging in low bushes, shrubs, or other vegetation, but are less arboreal than the Rough Greensnakes, *Opheodrys aestivus*, which are not found in Wisconsin.

Mating most often takes place in the spring or fall after, to before overwintering. Smooth Greensnakes are oviparous, laying eggs numbering about 5 to 8 in a clutch. Smooth Greensnakes create a small depression or excavation underneath rocks, logs, boards, or railroad ties and stumps in which to lay their eggs, and may lay eggs communally of up to 2 or 3 different clutches. Clutch sizes of up to 15 eggs have been reported, but may be communal nests. The incubation periods for Smooth Greensnakes are shorter than many other snakes, lasting only about 30 days, and the young upon hatching are about 4.72 to 5.90 inches in length, and fend for themselves upon hatching. They usually hatch by the end of July, August, or September. Some evidence also exists that Smooth Greensnakes could be on the verge of becoming an ovo-viviparous species.

A Smooth Greensnake's primary means of defense are their cryptic coloration, remaining "still" and blending in to the grass and foliage. They may quickly bolt for a short distance, and then periscope

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and/or undulate their heads and necks slowly, as if to mimic a piece of vegetation swaying in the wind. They are entirely harmless and inoffensive snakes, which will primarily thrash, defecate, or expel musk when they are handled. The occasional individual, however, may put up more of a bluff by puffing up their bodies and gaping, but even then, will rarely try to bite, and even if one did, their mouths are mouth too small to create any sort of damage or harm.

Because of their highly insectivorous diets (being perhaps the most insectivorous snake species in Wisconsin), Smooth Greensnakes can be especially susceptible to insecticide poisoning, which may cause population declines. Although beautiful, these small snakes usually do not acclimate to captivity well, although the similar, larger rough Greensnake tends to fare better, but most are still wild-collected.

Small snake species such as smooth green snakes can be predated upon by many different species of birds (such as crows, turkeys, cranes, kestrels, hawks, and other small birds of prey), other larger snakes, and a number of different carnivorous or predatory mammals including domestic cats, foxes, skunks, shrews, raccoons, moles, and opossums.

Conservation Status: In Wisconsin, Smooth Greensnakes are listed as “Common”. They are still regulated and protected along with all other of Wisconsin’s herptiles, however under N.R. 16. Smooth Greensnakes are currently not protected or regulated federally. Smooth Greensnakes are currently IUCN Red-List Least Concern (LC).