

# Ring-necked Snake (*Diadophis punctatus*)

Family Colubridae (Dipsadinae)

Subspecies: Northern Ring-necked Snake (*Diadophis punctatus edwardsii*); Prairie Ring-necked Snake (*Diadophis punctatus arnyi*)

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© Eric Roscoe (Both)



Prairie Ring-necked Snake Venter (*D. p. arnyi*), © Eric Roscoe  
*p. edwardsii*), © Tim Spuckler



Northern Ring-necked Snake Venter (*D.*

**Description/Identification:** Ring-necked Snakes are small species of fossorial snakes with smooth scalation, ranging in total length of about 9.8 to 15.0 inches as adults. The head is only slightly distinct from the neck, and the ventral, or anal plate is divided in Ring-necked Snakes. There are about 15 to 17 scale rows present at mid-body. The labials and upper jaw-lines are white or cream colored, and the tongues are forked and red or pinkish and black tipped. The pupils are normally round, on a dark brownish, grayish, or grayish-brown color of the eyes. Ring-necked Snakes have 2 rows of subcaudals on the undersides of their tails past the ventral opening, comprising of 15 to about 40 rows, and which may vary somewhat with the subspecies.

Two distinct subspecies of Ring-necked Snakes occur in Wisconsin, the Northern Ring-necked Snake (*Diadophis punctatus edwardsii*) and the Prairie Ring-necked Snake (*Diadophis punctatus arnyi*). The dorsal coloration in both subspecies are similar, ranging from a uniformly un-patterned slate gray, black, or glossy dark bluish-black, and the tops of the heads are slightly darker in coloration than the rest of the body. The ventral or undersides differentiate the two subspecies, as well as their range and habitat (at least to a large extent) in Wisconsin. Male and female Ring-necked Snakes can be difficult to distinguish, aside from slight dimorphic traits in that females are slightly larger, and have proportionately shorter tails than males. Examining for the hemipenes in males is the only sure method, however. On the inside of the mouth, Ring-necked Snakes 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, and an enlarged pair of rear maxillary teeth. These teeth, however, are too small to easily or effectively puncture human skin.

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The Prairie Ring-necked Snake has a ventral or undersurface ranging from bright yellow to yellow-orange on the anterior, grading into a brighter red to reddish orange towards the posterior and underside of the tail. Numerous, small dark half-moon shaped spots or flecks on the underside scattered throughout are usually present on the prairie Ring-necked Snake. The underside or ventral surface of the northern Ring-necked Snake, on the other hand, tends to usually be a more uniform yellow to yellow-orange, with very few or absent ventral spots or markings, and no deeper red or orange coloration. Both subspecies have a wide, thick yellow, orangish, to yellow-orange ring around the neck, 1 to 4 scale rows wide, and which can be bordered in black, giving these small snakes the name “Ring-necked” Snake.

Newborn and juvenile Red-bellied Snakes (*Storeria occipitomaculata*) and DeKay’s Brownsnakes (*Storeria dekayi*), can oftentimes be confused with Ring-necked Snakes due to the presence of a similar, but usually lighter cream colored and more broken-up, irregular “neck” ring. Juvenile *Storeria spp.* also have keeled scales as opposed to smooth scales, and a dorsal pattern of small spots or flecks are usually present, unlike in Ring-necked Snakes. Hatchling Ring-necked Snakes usually measure about 4.9 to 5.3 inches in length.



*Prairie Ring-necked Snake (D. p. arnyi) Range, © WDNR.*



*Northern Ring-necked Snake (D. p. edwardsi) Range, © WDNR.*

**Range and Distribution:** Ring-necked Snakes have a wide range in the United States, with many different subspecies occupying different regions or areas. The Prairie Ring-necked Snake ranges from the Midwest in southwestern Wisconsin and Southeastern Minnesota, along the western edge of Illinois, and through the rest of the western-Midwestern and Great Plains states to Texas and New Mexico, where integration

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occurs with a few other Ring-necked Snake subspecies. The northern Ring-necked Snake occupies further north up in the Upper Midwest, From northern Minnesota and Wisconsin, the Upper Peninsula of Michigan, through southern Ontario, Quebec, Nova Scotia, and Newfoundland, Canada, throughout the New England and Eastern U.S. to northern Alabama, Georgia, Tennessee, and the Carolinas, where integration occurs with other Ring-necked Snake subspecies.

In Wisconsin, the Prairie Ring-necked Snake occurs primarily in western and southwestern Wisconsin along the Mississippi and Lower Wisconsin River basins. Prairie Ring-necked Snakes can locally be very abundant in some areas, but not other areas nearby. The Northern Ring-necked Snake occurs in about the northern to northeastern two-thirds of the state, and further south along the Lake Michigan counties to Waukesha and Milwaukee Counties. A band of integration between the two subspecies occurs in roughly west-central Wisconsin.

**Habitat:** Ring-necked Snakes are secretive, fossorial snakes, most often being found underground, or underneath rocks, logs, fallen bark, trash piles, or other objects or debris. Ring-necked Snakes may be found in a variety of moist to dry habitats, from moist deciduous forests or woodlands, to more open woodlands or woodland edges, dry, rocky, wooded hillsides or bluff prairies, talus slopes, rocky road-cuts, old quarries, or railroad grades, glades, and other rocky habitats. In the spring and fall, Ring-necked Snakes may be found in warmer, drier microhabitats, but in the summer may be found in more moist microhabitats.



Northern Ring-necked Snake Ventral/Belly View. © Paul J. Fusco.



Prairie Ring-necked Snake Ventral/Belly View. ©

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**Feeding and Diet:** Ring-necked Snakes are insectivorous to carnivorous. These small snakes will eat earthworms and other worms, small, soft-bodied insects, arthropods, arachnids, and other invertebrates. They will also eat smaller salamanders, frogs, smaller lizards, or smaller snakes as well. Prey is usually seized with their jaws and consumed live, but may be weakly constricted. This sometimes leads to them being considered the smallest species of “truly” constricting snakes in Wisconsin.

**Natural History:** Ring-necked Snakes become active in the year as early as mid-to-late April or May, emerging from their overwintering quarters in ant-mounds, rock caverns, cavities, or crevices, or small underground burrows constructed by other animals, where they may overwinter and emerge with other species of small snakes. Breeding most likely occurs in the spring shortly after emerging from overwintering. Ring-necked Snakes are normally very secretive, fossorial snakes usually being found only by flipping suitable debris in suitable habitat, and are normally only active on the surface during the dawn or dusk, or on overcast days, being nocturnal or crepuscular in their habits. They are active until September or October in the year.

Ring-necked Snakes are oviparous, laying anywhere from 3 to 10 eggs (most often 3 or 4), and are laid underneath or within moist, humid rotting logs, stumps, rocks, or other ground debris. Ring-necked Snakes may nest communally as well, and the eggs are usually laid in mid to late June or July, and hatch by late August or September. The hatchling, newborn Ring-necked Snakes are identical in color and appearance to the adults, except for being much tinier. As with most snakes, Ring-necked Snakes do not provide any brooding or care of their eggs or young once they are laid or hatched, with the tiny hatchlings fending on their own upon hatching.

Ring-necked Snakes are small, inoffensive snakes which rarely attempt to bite upon being captured or handled, and even if one does bite, their mouths and teeth are extremely tiny and unable to break the human skin. These small snakes will usually first quickly dart away for denser cover upon being uncovered, or they may squirm and emit a foul-smelling musk when they are handled. The prairie subspecies takes a more active and unique defensive behavior of burying their heads in their coils while corkscrewing and raising the undersides of their tails to expose the bright red and orange coloration as a means of either startling any potential predator with these bright colors, to signal of potential toxicity (which is known as aposematic coloration), or to distract any potential predators away from their heads. The northern Ring-necked Snake subspecies does not seem to perform this active corkscrewing behavior, or at least much more rarely does so, although both subspecies may also play dead or “death-fein” by stiffening their bodies or tightly coiling their bodies while hiding their heads.

Small snake species such as Ring-necked 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.

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**Conservation Status:** In Wisconsin, the Northern Ring-necked Snake is listed as “Common”. The Prairie Ring-necked Snake is currently listed as a “Special Concern” (sub)-species. Both subspecies of Ring-necked Snakes are regulated and protected along with all other of Wisconsin’s herptiles under N.R. 16. Ring-necked Snakes are currently not protected or regulated federally. Ring-necked Snakes are currently IUCN Red-List Least Concern (LC).